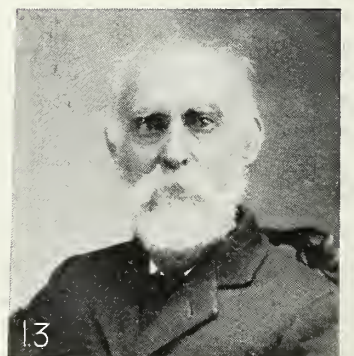
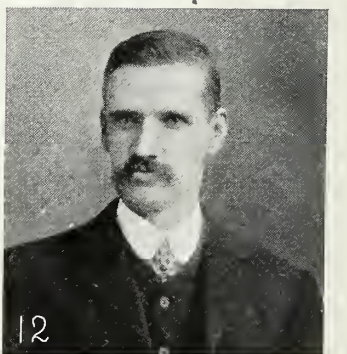
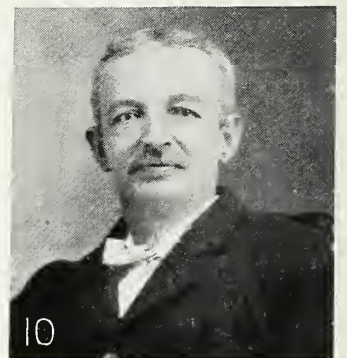
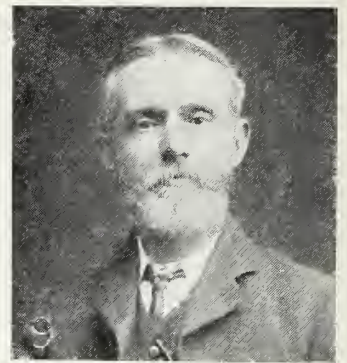
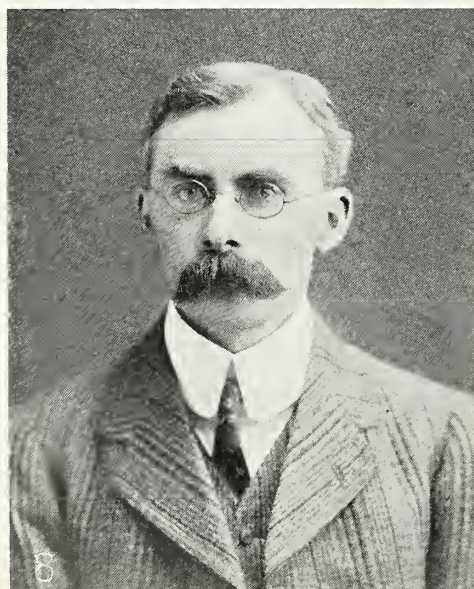
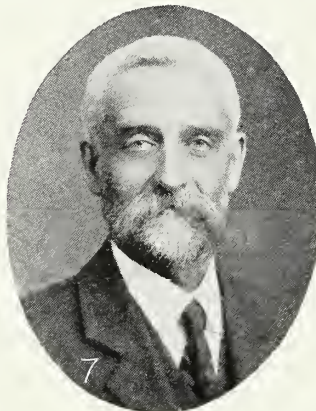
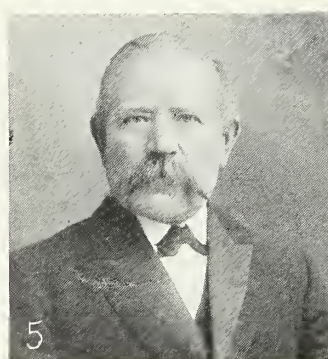
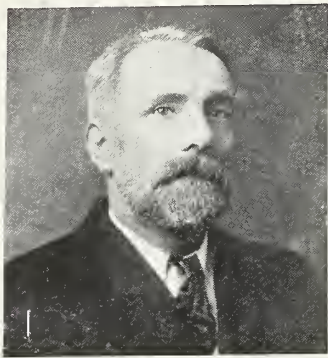


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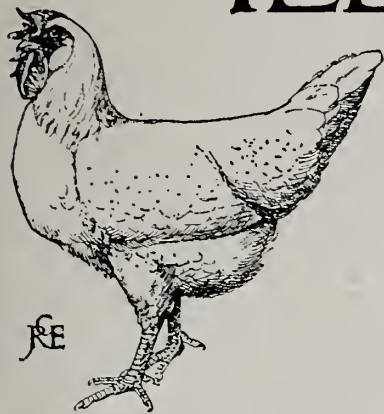


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2. Mr. W. GORDON.
3. Mr. J. FOULDS.
4. Mr. GEO. SKIPPER.
5. Mr. J. WHITTAKER.

6. Mr. E. JOHNSON (President).
7. Mr. S. HAWORTH (Vice-President)
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9. Mr. A. LATHAM.
10. Mr. W. HAWORTH.
11. Mr. GEE (Vice-President).
12. Mr. W. WHITHAM (Assist. Secretary).
13. Mr. J. BURRELL (Vice-President and
Manager Laying Competitions).

THE ILLUSTRATED POULTRY RECORD



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DIARY OF THE MONTH.

EDITORIAL NOTICES.

Telegrams: "CHICKENDOM." Telephone: 1999 P.O. CITY.

The Editor will be glad to consider any MSS., photographs, or sketches submitted to him, but they should be accompanied by stamped addressed envelopes for return if unsuitable. In case of loss or injury he cannot hold himself responsible for MSS., photographs, or sketches, and publication in THE ILLUSTRATED POULTRY RECORD can alone be taken as evidence of acceptance. The name and address of the owner should be placed on the back of all pictures and MSS. All rights of reproduction and translation are reserved.

The Editor will be glad to hear from readers on any Poultry Topics, and all Queries addressed to the paper will be answered by experts in the several departments. The desire is to help those who are in difficulty regarding the management of their poultry, and accordingly no charge for answering such queries is made.

The Annual Subscription to THE ILLUSTRATED POULTRY RECORD at home and abroad is 8s., including postage, except to Canada, in which case it is 7s. Cheques and P.O.O.'s should be made payable to Brown, Dobson, and Co., Limited.

THE ILLUSTRATED POULTRY RECORD is published on the first of every month. Should readers experience any difficulty in securing their copies promptly they are requested to communicate immediately with the Editor. The latest date for receiving advertisements is the 20th of the month preceding date of issue.

The utmost care is exercised to exclude all advertisements of a doubtful character. If any reader has substantial grounds for complaint against an advertiser he is requested to communicate at once with the Editor.

The Foreign Exhibitions Commission.

Breeders of poultry and makers of poultry appliances will now have an opportunity to secure due recognition of their industry abroad which has never before been available, and the result cannot fail, if they take advantage of it, greatly to increase their overseas trade. Our notes in the May issue have borne fruit, and we are gratified to learn that the Royal Commission, over which the Prince of Wales presides, is fully cognisant of the important place now occupied by the poultry industry, and is desirous of giving it a leading position in the British Section of the Brussels Exhibition next year and the Turin Exhibition of 1911. As an indication of what this may mean, it may be mentioned that in connection with the last-named a strong desire has been expressed in Italy that poultry-breeding shall be given a prominent place, and the authorities there have promised to co-operate in making it a success. What the exact form will be has yet to be determined, but announcements will doubtless be made in due course. We hope that one of the prominent features will be a really representative display of British poultry, in order that foreigners may be able to appreciate where stock can be secured, to which end the loyal support of breeders may be looked for. What is wanted for this purpose is not so much high-priced exhibition stock, though that will have a place, as typical fowls of practical value for egg- or meat-production. We hope some of the high scorers in the laying competitions may be willing to help in making these exhibitions successful, and thus regain the ground lost by the sparse representations at Continental exhibitions in previous years.

Poultry at Agricultural Shows.

A large number of the more important agricultural societies nowadays provide classification for exhibition poultry at their summer shows, and there can be no doubt that this policy is quite in keeping with their ideals, which are mainly to encourage the breeding of high-class stock. The Royal Agricultural Society of England has recently brought its poultry schedule up to date, and among other purely agricultural bodies that cater generously for poultry-fanciers may be mentioned the Royal Lancashire, the Royal Cornwall, the Royal Counties, the Bath and West of England, the Yorkshire, the Durham County, the Leicestershire, the Northamptonshire, the Staffordshire, the Derbyshire, the Hereford and Worcester, the Sussex County, the Lincolnshire, the Denbigh and Flintshire, the Hertfordshire, the Huntingdonshire, the Shropshire and West Midland, the Mid-Kent, besides a number of local events of considerable importance and many county shows in Ireland and Scotland. But it may reasonably be asked why, in view of the importance of the industry to agriculturists, more generous support is not given to the utility section at these shows. Competitive classes for utility fowls must necessarily be limited, and they have never proved very attractive; but it would, we think, be possible to organise demonstrations, illustrating particularly the methods of preparing chickens for the table, and marketing both eggs and table birds. At many of these important shows we find two or three classes for eggs, and perhaps as many more for dead fowls, whilst at others lectures are delivered by experts. There is obviously room for the development of the utility section at our leading agricultural shows, without curtailing the fancy section in the least.

Departmental Committee for England and Wales.

The Report recently issued of the Scottish Poultry Committee is an example that ought to be followed in South Britain. Dairying, fruit-growing, and forestry have had the advantage of such inquiries, and poultry-keeping in this respect has been long overdue. We are glad, therefore, to see in the record of the last meeting of the National Poultry Organisation Society's Committee, received as we go to press, that an effort is to be put forth to induce the President of the Board of Agriculture to appoint a Departmental Committee to inquire into the poultry industry in England and Wales, and we feel sure that all societies interested and poultry-keepers generally will cordially and heartily support the N.P.O.S. in this project, which could not fail to promote poultry-breeding and help to solve some of the problems now before us.

Supine Producers.

It is a remarkable characteristic of perhaps the majority of British poultry- and egg-producers that although they are apt grumblers, they are too much disposed to supineness; or to adopt the modern phrase, which is a free rendering of supine, they take their grievances "lying down." The advantages of organisation and co-operation are manifold and obvious, yet the slow progress of these movements in proportion to the large numbers whose interests are involved is notorious—at any rate, to those in a position to estimate the numerical strength of commercial producers. In some instances this characteristic is strengthened by the rustic tendency to independence and suspicion, traits that are no doubt influencing factors in the withholding of their membership—by the majority of chicken fatteners—from the Association formed to safeguard their vital interests. The Sussex Poultry Association, the most recent movement in aid of producers, has already secured satisfactory concessions from two railway companies concerned in the carriage of poultry for the local industry, and has come to a workable understanding with some of the more important London salesmen relative to commission and conditions of sale; yet the executive is reduced to the necessity of appealing to the fatteners to take a more lively interest in the scheme that has primarily been devised on their behalf.

Modern White Leghorns.

In Professor Bateson's recently published work on "Mendel's Principles of Heredity," which is reviewed by Dr. Greene in this month's issue, the author in Chapter VI., when dealing with eye colour, says:

Malay fowls are peculiar in having a pale, yellowish white iris—the "daw-eye" of fanciers—which behaves as a recessive to the red iris. This eye may be found in birds of various colours, and probably it always indicates an admixture of Malay blood. I have seen, for instance, a daw-eye in a White Leghorn of a good strain. Here it undoubtedly cropped out as a recessive character among the normal red-eyed birds, and *I happen to know that White Malays were used by a prominent White Leghorn breeder to increase the size of his strain.*

That alien blood was introduced into the modern show White Leghorn has often been stated and as frequently denied. Actual evidence has not been easy to obtain, for crosses of this kind are generally *sub rosa* and the secret is zealously guarded. But breeders have claimed that the proof was in the birds themselves, needing no other. It has never been suggested that those who have repudiated the statement were personally responsible for the introduction of alien blood. Here is a definite and clear piece of

evidence, for Professor Bateson is not a man to say this much without knowing what he is talking about. We believe the breeder referred to is no longer an exhibitor. It would be desirable that the facts be made known, whatever they are, as sooner or later will be the case.

Is Poultry-Keeping Unhealthy ?

When we saw in the *Blackburn Telegraph* an article—or, rather, report—of an interview, headed as above, it appeared as if fresh light would be thrown on a question which has been a burning one in several urban districts, where the local authorities have attempted to put down poultry-keeping, and in a few villages where fowl-keeping is prohibitive. But it all comes back to what has been recognised before—namely, that overcrowding is fatal to the poultry and may be hurtful to human beings. The case referred to in our contemporary may be stated in the actual words of the interviewee :

A few years ago I built half a dozen cottages for working-men, and gave each of them a good-sized garden. In two years' time I found that all the tenants were keeping poultry; they had put up wooden houses; and every inch of ground was occupied by poultry-runs. The birds were far too crowded, the runs came close to the back doors, and altogether I came to the conclusion that the atmosphere in and around the houses was becoming unwholesome. I therefore gave the tenants notice to quit or to give up poultry-keeping.

Under the circumstances named it cannot be denied that the danger point was reached. It was pointed out that the poultry-keeping was taken up from necessity, as without it the occupants of these houses could not have paid their rents. The fault, therefore, was in high rentals and too limited space, in the first instance; but, in the second, there would probably be neglect of precautions essential to keeping the ground sweet.

The Fascination of Poultry-Farming.

What is the reason why so many of those who know little or nothing of poultry-keeping, whose experience does not warrant their taking it up as a serious pursuit, or who are totally disqualified for engaging in it, seem to be lured by some glamour which, apparently, blinds them to its realities? That such is the case, everyone who has taken any share in the promotion of the poultry industry can bear testimony. Many of these applicants desire to put their own money into the venture, but others are by no means so modest. These latter do not hesitate to ask that they may be provided with the necessary capital, which, of course, it is intended to pay back out of the "prospective" profits. Their confidence is simply sublime, and they seem to think that others should be equally certain as to the results. Recently we saw a letter addressed to a leading

member of one of the poultry societies, to whom the applicant was unknown, saying that he had an opportunity of securing an excellent place for the purpose, and asking for a loan of £300 to establish him there, without surety or guarantee. This is no new story, for more than fifty years ago, as told in Lord Morley's *Life of Richard Cobden*, the great Free Trader was applied to by a lady, but in a bolder fashion, for the same purpose. The reference is as follows :

She says "I do not see to use my needle; to rear Poultry for London and other large market towns is what my wishes are bent upon." For this purpose she suggests that Mr. Cobden should procure a loan of £5,000 to be advanced by himself and nine other friends in Manchester, where, she delicately insinuates, he is so much beloved that the process will be a very easy one for him. The loan, principal and interest, she promises shall be faithfully paid in ten years at the most. The writer mentions that she has her eye upon a small estate which will serve her purpose.

Amateur Prize Competition.

Our Prize Competition for the best essay descriptive of an amateur's poultry-keeping during 1908, which closed on May 31, produced such a large number of competitors that the task of selecting the best account was exceedingly difficult. In due course, however, about half a dozen were chosen as being most worthy of consideration; and it was finally decided, on the advice of Mr. W. M. Elkington, who kindly acted as judge, to divide the prize between the two ladies whose essays are printed in the Amateur Section in this issue. It will be observed that Miss Macqueen's account of the year's working is the more carefully detailed of the two, particularly in regard to the feeding arrangements, &c., while that of Mrs. Fear treats the subject in a rather different manner, but is a very sane and sensible summary of what can be done with twenty fowls or less—according to our stipulated limit—under anything but ideal conditions.

No Supplement this Month.

We must apologise to our readers for the absence from this month's issue of a feature which we have reason to believe is popular—namely, the Trade Supplement. The omission is due to a misunderstanding that caused delay in the delivery of the necessary copy and illustrations until too late for insertion; and, by way of extenuation, we may mention that the supplement arranged for dealt with a Transatlantic subject, and was written in the States, so that it was next to impossible to hasten its delivery at the last moment. We hope to print it next month, and in the meantime ask the forbearance of our readers for the unavoidable breaking of the sequence of this series of articles.

THE NORTHERN UTILITY POULTRY SOCIETY.

By THE EDITOR.

NOVEMBER 15, 1897, is an important date so far as the British poultry industry is concerned, since it was then that the above Society was inaugurated, not under its present name, but as the Burnley Utility Poultry Society. It had long been felt by a number of enthusiasts in the neighbourhood that the poultry-keepers of Burnley and the surrounding districts would benefit very greatly if they could but be induced to combine—one of the most difficult things in the world to accomplish. The preliminary difficulties, however, were overcome successfully, and the Burnley Utility Poultry Society was formed. One of the first things that was done by the newly formed Society was to become affiliated with the Utility Poultry Club, and the connection then formed has been continued without a break to the present day.

Among the objects of the Society are the encouragement of the breeding of pure and cross-bred poultry for utility purposes, by means of shows (both public and private), lectures, and discussions during the winter months, practical demonstrations, and laying competitions. The best advice is gratuitously given to members on all matters relating to poultry-keeping, including the selection, breeding, and mating of poultry

achieved. A good deal has also been done by the Society in the direction of securing preferential railway rates for members, fowls, eggs, foods, &c., to or from other centres, and other benefits.

The objects that the promoters had in view have been more than achieved, and unless one actually visits the neighbourhood, as we had the pleasure of doing a few weeks ago, and talks to the members, one fails to realise the large amount of good that the Society has accomplished. We have met hundreds of keen poultry-keepers in the course of our work, but never have we had the pleasure of meeting such enthusiasts as we did at Burnley. The one absorbing topic of conversation was poultry; we suppose there must be one or two other matters that arouse a certain amount of interest in Burnley and the neighbourhood, but, if this is the case, we can only say we did not hear of them. Poultry appeared to be the one and only topic.

We cannot possibly attempt to enumerate all the good works that the Society has accomplished, but one or two special ones may be mentioned. Soon after the Society was inaugurated a series of lectures was delivered by Mr. E. Evans, a Natural Science Master at the Burnley Institute School, which awakened a great deal of interest, and which have since been published in book form under the title of "The Biology of the Fowl," a book that is regarded as the standard work throughout the country. Each winter for the past ten years lectures on various subjects have been delivered, besides which numerous egg shows and practical demonstrations have been held. During the summer months several visits to farms have been made, and so popular a feature have these excursions become that the attendance has averaged between twenty-five and thirty. Not only are farms in the immediate neighbourhood visited, but such distant ones as Mr. Simon Hunter's at Northallerton and the Lancashire County Council Farm at Hutton.

The work that has brought the Society most prominently before public notice is the Annual Laying Competition. In all, eight of these contests have been held. In each case four birds of one breed have comprised a pen, and the competition has extended over a period of sixteen weeks. The first four contests were quite local, and consisted only of about six entries each. In May, 1905, a committee was formed, consisting of Mr. E. Haworth, Mr. W. Holdsworth, and Mr. Longbottom—we shall have more to say about the last-named later on—whose duty it



ON MR. HAWORTH'S FARM. [Copyright.]

for utility purposes, their feeding and general management, and the disposal of the produce. The Society also aims at facilitating the introduction of fresh blood into the neighbourhood at as low a rate as possible, always keeping in view the fact, however, that a good price must be given for stock birds if the best results are to be



1. Mr. Latham's Breeding-Pens.

3. An Early Brood on Mr. Crabtree's Farm.

5. The Glass House in which Mr. Gordon Rears his Chickens.

2. A Corner of Mr. Haworth's Farm.

4. The Buff Orpingtons, belonging to Mr. Hargreaves, that hold the Record for Laying in any Competition.

6. On Mr. Skipper's Farm, where over 34,000 Eggs were Produced Last Year.

[Copyright.]

was to see if there were any means whereby the competition could be placed on a more satisfactory basis. The first thing done was to raise subscriptions for a six-guinea challenge cup and the second to secure the services of Mr. Burrell as manager. The immediate effect was to increase the number of entries for the laying competition to eighteen, and since that date the Society has advanced rapidly. This was the first contest, too, at which birds from a distance competed, one pen coming from Mr. Reynolds at Street, who has just conducted the extremely successful Six Months' Competition. The cup was won by Messrs. Skipper with Buff Orpingtons, whose score amounted to 236 eggs. The large amount

Club. The 1907-8 competition was still more successful, since two records were established which are not likely to be easily beaten. Mr. Robert Hargreaves's pen of Buff Orpingtons won first place, laying no fewer than 301 eggs. The other record was established by Mr. Longbottom's White Leghorns, which produced 269 eggs. The competition of 1908-9 was the most successful of any, twenty-five pens competing, while several entries had to be refused on account of lack of accommodation. The winner this year was Mr. E. Cam, whose White Wyandottes laid 278 eggs; Mr. T. Barron was second, also with White Wyandottes that produced 256 eggs. In connection with these laying competitions we have received an



THE IGTENHILL POULTRY FARM, BURNLEY.

[Copyright.]

of notice that this competition awakened brought inquiries from all parts of the country, and with a view to broadening the basis of the Society any person becoming a member was allowed to compete in the laying contests. In 1906-7 twenty pens were entered for competition, and Mr. Longbottom was successful in procuring premier honours with White Leghorns, which produced 251 eggs—a distinct improvement on the previous year. It is interesting to note that this is the exact number produced by the pen of White Leghorns in the competition held at Studley Castle under the auspices of the Utility Poultry

interesting letter from Mr. Longbottom, in which he points out that the committee are of opinion that a four months' competition, held from October to February, is the best test of what can be accomplished in the direction of winter egg-production, and that, therefore, similar tests are to be held in the future in preference to those of longer duration. Arrangements are now being made for another four months' competition, commencing next October, and it is hoped that Mr. Burrell will again undertake its management, since he has conducted the last four contests so ably and with such marked success. Certainly

no one could possibly be selected to do the work better. Mr. Burrell has a lifelong experience behind him, besides being very keenly interested in the work.

As we have already indicated, the Society formed in 1897 was called the Burnley Utility Poultry Society, which name continued until last year, when it was changed to the Northern Utility Poultry Society. There were several reasons for this alteration in name, and as a good deal of curiosity has been aroused as to why the change was made, it may be well to give the facts as they were given to us. In the annual competitions a certain amount of outside prominence was gained by those whose scores were satisfactory; but, at the same time, it was felt that those whose birds achieved good positions did not derive as much benefit as they should have done. This was undoubtedly due to the fact that the general public regarded the Society as a purely local one, whereas as a matter of fact entries were being received from distant parts, while members were being enrolled from as far away as Cumberland, Yorkshire, and Northumberland. The committee, owing largely to the pressure that was being put upon them by the members, approached the Utility Poultry Club with a view to induce the latter body to conduct two competitions instead of one, as heretofore—one in the South of England and one in the North, the latter being controlled by the Northern Society. It was thought that this would be advantageous from several points of view, principally because it would do away with the necessity of the birds having to travel long distances. The negotiations were unsuccessful, however, the Utility Poultry Club deciding to adhere to the original arrangements. We were assured by the secretary of the Northern Utility Poultry Society that since the change of name a large number of new members had been enrolled, and that a considerably higher price had been secured for stock birds and eggs than was previously the case. The alteration in the title has thus proved extremely successful, and we may hope that even greater progress will be made during the next few years.

We had the privilege of attending the annual dinner of the Society, and of visiting a number of the farms belonging to members, and a most interesting and instructive visit it proved to be. It is impossible to give a detailed account of all

that we saw, but the following establishments may be mentioned. Mr. Robert Hargreaves's farm, while quite small, is thoroughly up to date in every respect. Here are housed the celebrated pen of Buff Orpingtons that hold the record for any breed in a four months' laying competition. Each house consists of a laying compartment, a scratching-shed, a gravel and a grass run. Everything was the essence of cleanliness and of modernity, and Mr. Hargreaves thoroughly deserves the great success he has achieved. An extremely interesting feature on Mr. Gordon's place is the glass house in which he rears his chickens. Hatching is done by means of an incubator, but instead of using a brooder for rearing he employs a large greenhouse, heated by means of hot-water pipes. The pipes are covered with earth to a depth of several inches, and it is truly remarkable how rapidly the youngsters develop. It might be imagined that chickens so reared would suffer from leg weakness, but apparently no trouble in this respect has been experienced. Mr. Jonathan Crabtree is very successful in his hatching and rearing, and his speciality is catering for the day-old chicken trade. Messrs. Skipper's farm was extremely interesting, and we wish it were possible to devote considerably more space to its description. The holding is about half an acre, and upon this there were produced last year over 34,500 eggs. A regular stock of 500 laying hens is maintained, and while, naturally, the birds are cramped for space they appeared in excellent health and condition. The Buff Orpington is the favourite variety at present, though Mr. George Skipper has a great belief that he will soon win a competition with his Black Leghorns. Among the farms we also visited should be mentioned those belonging to Mr. Abel Latham, Mr. Samuel Haworth, Mr. Eadson, Mr. Sam Hills, Mr. Robt. Pollard, and Mr. Longbottom. At the latter place we saw the White Leghorns that have done so remarkably well in the competitions.

We should like, in conclusion, to say how extremely grateful we are to Mr. Longbottom for his kindness and his assistance, both at the time of our visit and since that date, as it was mainly due to him that we saw and learnt so much that was interesting. The Northern Utility Poultry Society is extremely fortunate in its secretary, and a great deal of the success that has been achieved during the last few years is due to him and his enthusiasm.

COLOURATION OF EGGS OF DOMESTIC FOWLS.

By EDWARD BROWN, F.L.S.

THE question of colouration of eggs of wild birds has received consideration from naturalists, and certain principles are accepted in explanation of the great variations met with. But in respect to domesticated fowls, in which the differences are much narrower, the subject has been largely ignored. A few writers mention the fact of variation without any attempt to discover the reasons. Probably naturalists have assumed that the same influences are at work with ordinary poultry as in the case of wild birds. But it would appear that such is not altogether true, and I submit that the subject is worthy of study. In this respect I am a learner, simply bringing the question forward in order to elicit observation and to secure that inquiry which is necessary to a solution of the problem. It will be seen from what follows that I have no preconceived notions, nor have I formed any definite theory.

From a commercial point of view, eggs the shells of which are deeply tinted are in greater demand than those which are white or very slightly coloured, and in the majority of cases command a preference which can be expressed in cash terms. The most prominent exception to this rule is New York, where pure white-shelled eggs sell better than those which are coloured. Strange to say, at Boston, 200 miles away, the reverse is the case. On the Continent of Europe the difference is much less marked in the majority of countries where pale eggs prevail, but everywhere the tendency is towards the coloured. That there is no justification for such preference is generally acknowledged. So far as we can tell by chemical analysis or by the palate, there is no better flavour or greater edible value in one as compared with the other. It seems to be entirely a question of appearance. But we all have the same feeling. Put down before any number of people, of any position or means, a dish of boiled eggs, and, if no one was looking, everyone would pick out the brown eggs, other things such as size being equal. The fact that if we desired to compliment our visitors specially we would press upon them the tinted-shelled egg, taking a white one ourselves, is further proof.

Eggs, although of animal origin, are now allowed to be eaten by Catholics during Lent. But it was not always so. Formerly eggs never figured on the tables of the faithful during the fast. But on the Saturday previous to Easter a great quantity of eggs held over for six weeks were blessed and distributed among friends on Easter Sunday. They were dyed yellow, violet, and especially red, hence the origin

of the red or Easter eggs. In the reigns of Louis XIV. and XV., after Grand Mass on Easter Sunday, pyramids of eggs gilded were taken to the cabinet of the King, who distributed them to his courtiers. This custom of Easter eggs is continued to the present time, although modified. Easter eggs are no longer blessed nor gilded to be offered to sovereigns, nor are they held over to Easter Eve to receive brilliant colours. A fortnight before Easter, in the coffee-houses and beershops of Catholic cities, may be seen huge dishes of eggs of various colours, which are eaten by the customers with their beer. And in families a hard egg is added to the salad, after removing the shell. The mutual presentation of coloured eggs at Easter by friends continues in Russia and all Catholic countries. Fowls' eggs, variously coloured, and having flowers and other devices upon them, formed by the colouring matter being picked off so as to expose the white shell of the egg, are a part of all the Malay entertainments in Borneo.

Perhaps in the above quotation may be found an explanation for the preference in favour of tinted-shelled eggs, as the custom of Easter eggs is found in Protestant countries, evidently inherited from past days.

As a rule the colouration of shell is maintained throughout life, and follows the general rule of the race or family. There are, however, a few exceptions. Darwin, speaking of the Malay fowl in "Variations of Plants and Animals Under Domestication" (Vol. I., p. 261), says, in dealing with eggs:

Some were white as a Spanish hen's egg, and others varied from a light cream colour to a deep rich buff, or even to a brown.

This is certainly exceptional, though we know that from the same pen of fowls eggs may vary to a considerable extent in tint of shell, but it is seldom that both white and brown are produced by the same breed under identical conditions. As a rule, the following may be accepted as representative of the different breeds:

Deep brown eggs are laid by the Langshan, Indian Game, and Rhode Island Red;

Pale brown eggs are laid by the Malay and Wyandotte;

Buff-tinted eggs are laid by the Brahma, Cochin, Coucou de Malines, Faverolles, Game, and Plymouth Rock;

White eggs are laid by the Spanish, Minorca, Andalusian, Leghorn, Ancona, nearly all French races, Hamburgs, Polish, Scotch Grey, and Magyar.

This is by no means a complete list, but will suffice for our present purpose. Sometimes a great variation of tint is found in the same breed,

of which Wyandottes are an example. From very pale to darkish brown are met with, the latter obtained by selection with that object in view in the case of a few strains. There is also considerable difference in white-shelled eggs, ranging from the dead white of the Houdan to the glossy white of the Leghorn.

The general conclusion arrived at with respect to the eggs of wild birds is that colouration is protective. Upon that point it is unnecessary to dwell. But it is an interesting fact that a very large proportion of wild birds' eggs are coloured, some of which, as known to many of those who have made collections or have seen collections in the Natural History Museums, are very beautiful indeed. In a paper read before the Society of Arts of London in 1887, Mr. P. L. Simmonds, F.L.S., stated that :

When we consider the eggs of some 9,000 different birds known, we find that not one-fifth of those of the European birds are white, and among the exotic birds the number of white is much less.

Among domestic fowls five-sixths of the known races and varieties produce white-shelled eggs. That the colour of shell can be changed by wild birds appears to be evident. On this point we have little knowledge. Seebohn says (Vol. II., p. 13) :

The colouring matter of birds' eggs is influenced by the bird's mode of nidification, and is partly subordinated to the colour of the parents' plumage.

He assumes that the earliest forms of birds' eggs were white, but upon what ground is not stated. He further says (p. 24) :

In most birds where the eggs are hid from sight, either in domed nests or in nests in holes, we never find their eggs exhibiting much colouring matter—it is not required, therefore it is not developed. Eggs brought to maturity in such places are mostly pure white or pale blue, and only in the minority of cases more or less faintly spotted.

Hence it may be assumed that in wild birds' eggs the colouration is mainly due to natural selection, but in some cases the will of the mother can determine the result. M. Vander-Snickt suggests that fear affects colour of eggshell. That, however, does not help us in respect to domestic fowls, as the nature and colour of the shell are a fixed quantity.

In connection with the problem before us it is desirable to remember that in some wild birds' and also in ducks' eggs the colouration of the shell may be a film or coating, but that is not so with hens' eggs, as the entire carbonate of lime is permeated with the coloured matter when the shell is tinted. Attempts have been made to colour white eggs artificially, so as to resemble brown, but the result has not been satisfactory, and was easily discerned.

The evidence is conflicting as to whether the *Gallus ferrugineus*, or Jungle Fowl, lays white

or tinted-shelled eggs, but the weight appears to be in favour of the latter. It is necessary to remember that for hundreds, nay, thousands, of years the natural influences have been removed. Much can be said in favour of the suggestion that white shells on hens' eggs are due to domestication and to the absence of any need for protection. The European races, such as the Dorking, the Leghorn (Italian), the Spanish, the French, the Belgian, the Dutch, and some Russian races have been domesticated for hundreds of years, and all lay white-shelled eggs. But a difficulty arises from the fact that Game Fowls have been equally in the service of man for 2,000 years, and they lay tinted-shelled eggs. How long the Eastern Asiatic breeds have been domesticated it is impossible to state, but possibly as long, and a large number of these produce eggs which are very deep in colour of shell.

As we have already seen, Seebohn suggests that the colouration of wild birds' eggs "is partly subordinated to the colours of the parents' plumage," but that is not so, as shown by the following tables :

White-plumaged fowls laying tinted-shelled eggs :

Light Brahma	White Java
White Bruges	White Malines
White Cochins	White Langshan
White Game	Light Sussex
White Orpington	White Wyandotte
White Plymouth Rock	

Rich-plumaged fowls laying white-shelled eggs :

Gold Campine	Brown Leghorn
Partridge Cochins	Buff Leghorn
Red Dorking	Chamois Polish
Gold Pencilled Hamburg	Gold Polish
Gold Spangled Hamburg	

Hence in that direction no help is forthcoming.

The question naturally arises as to whether the maternal instinct has any influence. Without exception all the non-sitting races lay white-shelled eggs. Some strains of Bresse and Leghorn become broody, and an increase of tint in the shell is often noticeable. That, however, is an exception, and may be due to alien influence. All the races which produce tinted-shelled eggs are sitters, and those deepest in colour are laid by the most pronounced sitters. But Dorkings and Sumatra Game lay white-shelled eggs, and they are good sitters and mothers.

In some cases the deepest tinted eggs are laid by yellow-fleshed fowls, though in these there is considerable difference in the colouration. We are, however, met with a difficulty which destroys any suggested influence in that direction—namely, that white-shelled eggs are produced by Anconas, Leghorns, and Magyars, all of which have yellow flesh, and that tinted-shelled eggs are produced by Faverolles, Game, Langshans, Malines, Buff

Orpingtons, and Sussex, which are white in flesh and skin.

It might also be thought that soil would have an influence, but that is not the case so far as I am able to trace. Heavy or light soils make considerable difference as to colour of legs and flesh, but not to the shells of the eggs produced. And the same appears to be true of climate and food. In moist Ireland or dry Kansas the Leghorn lays a white-shelled egg, and the same is true whether fed on Indian corn or oats.

One fact is pointed out by Darwin in the work already referred to ("Variations," Vol. I., page 261), though it does not help us much :

It would appear that darker-coloured eggs characterise the breeds which have lately come from the East, or are still closely allied to those living there.

Such is true of nearly all the races, but the Game Fowl has been Europeanised for nearly 2,000 years, though probably there have been many re-importations, and the shell of the Game egg is not very deep in tint. It is correct as to the following breeds :

Pure breeds : Malay, Brahma, Cochin, Langshan ;
Made breeds : Breda, Faverolles, Indian Game, Malines, Orpingtons, Plymouth Rocks, Rhode Island Reds, Wyandottes.

But it is not true of the Sumatra Game and several of the races of Bantams imported from the East.

In spite of the difficulties presenting themselves and the exceptions noted, the fact that tinted-shelled eggs are mainly obtained from pure or mixed races in which the heavier types of Eastern Asiatic fowls predominate must be recognised. In this connection we may find some measure of explanation. A writer in the *Field* some years

ago, as quoted in my work on "Races of Domestic Poultry," called attention to the fact that when first introduced into this country the Shanghais, or Cochins, preferred to "jug" as partridges in the middle of the fields, rather than form nests in sheltered positions as the ordinary fowl. If that is the case on the open lands of China it is evident that a tinted shell conforming to the surrounding ground colour would be protective, which through many generations would tend to become fixed. Under domestication the need for such protection is absent.

Hens seek for quiet nests, but man robs them.

And thus natural selection in the last-named case is suspended. But the question arises, Why, if the protective influence is destroyed, the tendency to white ? Probably by artificial selection, must be the answer. Professor W. R. Wallace says :

On general principles I should say that the brownish eggs of the wild birds were so tinted for concealment ; and that in domestic birds, there being no need for concealment and no special destruction of white eggs, they reverted to white from the absence of selection.

Here, for the present, the question must be left, until further investigation and inquiry have elucidated facts as yet unknown, from which we may obtain solution of the problem. It may be thought that I have given undue weight to difficulties, but these must be recognised and faced. That there is some explanation for variations in colour of eggshells in domestic poultry is unquestionable, and it is our task to discover what that is. My object is to state the case in order to secure fuller consideration than has hitherto been given to a subject worthy of careful study and research.

FOX-HUNTING AND POULTRY-KEEPING.

By MESSRS. C. E. J. WALKEY, J. MAUNSELL RICHARDSON, and B. W. HORNE.

I.
THERE has been so much written on this subject that it is difficult to add to the knowledge already gained. There are always many arguments against a sport by those who wish to do away with it, and some of these arguments have a good deal of truth in them, but there are two sides to every question, and these it is my purpose to set out to the best of my ability in this statement of pros and cons.

A sport which has nine millions sterling in-

vested in it, as Lord Willoughby de Broke maintains fox-hunting has, is not one to be lightly got rid of. Fox-hunting costs a very great deal of money to follow properly and gives employment to a vast number of men outside the actual kennel servants, such as earth-stoppers, their assistants, and others ; while in some parts of the British Isles, where the rainfall is too heavy to allow of corn to be ripened except in the driest of dry years and where by reason of scanty herbage or distance from railways farmers cannot make a

living out of milk, it would go very hard indeed with tenant farmers if there were no hunting men to buy such forage and hay as can be made, and to spend money freely, as nearly all of them do, thus helping greatly to support the local community. I know of such a district myself, and have been there many times within the past six months; and from residents there, of all classes and shades of opinion, I hear that it would be an evil day for one and all if hunting of fox and stag were given up. Incidentally I may mention that there are but two inns in the heart of that district. One is a temperance hotel and the other has only a wine licence, but stables of all sorts abound, and were it not for the "hunting and fishing gentlemen" few people there would make more than their actual wages as workmen, while now most of them turn many an honest penny besides.

It is rather a curious thing—I was born and bred and have lived much of my life in hunting countries, so that I know what I am writing about—that some people send in year after year exactly the same number of casualties among their poultry to the administrators of their hunt poultry fund. It is odd that foxes there are so discriminating as to take the same number of birds on each place every year, because when one knows foxes and their ways and has lost birds by them, one learns how exceedingly cunning they are, and how they rarely visit the same hen-roost twice running! I am convinced in my mind that a vast number of these deaths result from some other beast than the fox. I remember years ago that a certain breeder of pure-bred poultry in a big way of business had 167 birds killed in one night inside a wire enclosure, and, despite the perfectly well-known fact that foxes are proverbially shy of wire, this gentleman—who did not hunt nor, so far as I recollect, subscribe to a hunt—duly sent in a claim for damage done by foxes. Yet when the matter came to be fully inquired into—as was necessary, since the damage was computed at no less than £41 15s.—it was ascertained that the raid had been made not by foxes at all, but by his own collies!

There is another curious circumstance. Most farmers in these days insure all their live stock fully except their poultry; these they very rarely insure at all. It can very easily be done, and not by any means at prohibitive rates. My own birds were insured until quite lately against such widely different risks as fire, theft, burglary, floods, storms, seizure by foxes, and accidental death by violence. Yet many farmers to whom I mentioned the possibility of this solemnly shook their heads. One of them, I may say here, who insures everything else he possesses (and who hunts himself), lost, he told me, 230 pure-bred pullets in one winter, and though he had

made over £40 the previous spring out of 2s. 6d. sittings, and quite a lot of money out of eggs for the market, he had given up breeding poultry except in a very small way. Had he insured under the same scheme as myself he would have recovered this loss.

Of course, here I am met by the argument that in a free country no one ought to be put to the expense of paying insurance on birds because a few rich men want to preserve foxes. It is a specious argument, but not a very sound one, for in the first place thousands of comparatively poor men hunt one day a week on all sorts of horses, making a part of their living by schooling and selling hunters. It would be better and in all ways more charitable, even though charity does begin at home, if those who keep poultry as a livelihood were to remember that the sale of corn, hay, and straw to those who hunt means the support of a very large number of men, and that in this dear old country of ours there is room for everybody if one and all pull together for the benefit of the whole. And I am sure that were a meeting to be convened of masters of hunts, their hunt servants, tenant farmers, game preservers, and poultry-keepers, both small holders and others, representative of the whole of the kingdom, to discuss fully the damage caused to the latter section by foxes and other vermin, that nothing but good would come of such a meeting, and that the policy of "Live and let live" would, after all, be found to be the best.

As likely as not such a gathering could be held at and during the Dairy Show, for those who live by poultry are not alone in exhibiting prize birds, and if there is anything which I can do in promoting such a meeting it is only for those who read this article to ask me to move in the matter, and I will do everything in my power to gather together masters and men to talk the whole thing out.

C. E. J. WALKEY.

II.

I have read the interesting fox-hunting and poultry-keeping articles by "Home Counties" in your valuable paper, and as a fox-hunter for fifty years, during the greater part of which I have also been engaged in agriculture, I should like to say a few words upon this important subject. Poultry-keepers who are adverse to fox-hunting, or who want to make it so expensive as to eliminate it entirely from some districts, and perhaps curtail it very considerably in others, might very reasonably be asked to view the position not only from the standpoint of poultry-keeping, but from the broader and more important aspect of agriculture generally.

If, as has been urged on all sides, utility

poultry can only be profitably kept as an adjunct to farming, this aspect is of the greatest importance, and in the case of small holders all over the country any movement that is likely to bring about the closing of good markets in their immediate vicinity must be viewed with considerable apprehension. To take the case generally, without specifying any particular districts, I would refer those who are interested to Mr. Richard Ord's "Fox-Hunter's Vade Mecum," from which it can be gathered that something like £600,000 a year is spent in hunting 230 packs of hounds in the United Kingdom. In addition to those for the hunts staffs there are 200,000 hunters kept, costing something like £12,000,000 to buy and £10,000,000 a year to keep; therefore there is a yearly circulation of this enormous sum of money, which permeates a very great number of trades and industries. If the poultry-keeper wishes to do away with this enormous expenditure, which benefits directly or indirectly so many families throughout the length and breadth of the land, he is taking a very narrow view of the case, and would inflict untold hardships on thousands of industrious and deserving, hard-working men.

I observe, too, that it is stated that if there was no fox-hunting the farmers could get more from their land, and poultry-keepers in particular; but, apart from the many benefits derived indirectly from fox-hunting and from the compensation paid by most of the hunts, there is no reason to suppose that the fact that a farm is hunted over considerably is not taken into account when the rent is agreed upon, and certainly in some cases the rent would be higher if no fox-hunting existed.

And now, as to how fox-hunting affects a particular locality, I propose to deal only with that district in which I have hunted and been resident most recently—namely, that covered by the hounds of the Quorn, the Cottesmore, and the Belvoir. Here the very existence of the agricultural community seems to be dependent on fox-hunting, and the farmers do not place any obstacles in the way of carrying out of the sport, for they realise, I think, how valuable it is to them. There has been a considerable increase in the number of poultry kept, and the claims have grown in consequence. The liberality shown to people who have suffered losses amongst their poultry in the fox-hunting districts of the Midlands will, I feel sure, be a revelation to many who have not really studied the question with an impartial mind. In the Duke of Rutland's county the amount paid for damage done to poultry by foxes amounts to £1,000 a year. Curiously enough, certain poultry-keepers always have exactly the same number of chickens killed annually. In the Cottesmore county, which is chiefly in Rutland, the same liberality and generosity prevails with regard to claims—

not well substantiated in many instances—the amount ranging from £1,100 to £1,200 per annum. It is interesting to note, too, that in his article in the April number of the *National Review* on "The Financial Aspects of Fox-Hunting" Lord Willoughby de Broke—than whom there are few more qualified to speak on the subject—writes: "The poultry fund, for instance, is in many counties ten times as much as it was fifty years ago. In the county (Warwickshire) presided over by the writer's grandfather, in the forties this fund was about £100 a year; in the same county it is now well over £1,000 a year." In a small county like Rutland, with about 100,000 acres, the benefit that fox-hunting does to an agricultural community will perhaps astonish some people who only look on one side of this question. The wages spent in this small county on the keep of horses alone in the different hunting establishments amounts to £500 per week, in addition to other household servants employed by these gentlemen, the greater majority of whom would not live in the country if there was no fox-hunting, while the forage for the horses kept entirely for hunting amounts to over £25,000 a year. It will be easily seen how great a loss it would be to this small county if fox-hunting was done away with or interfered with by any persons who wished to keep the great national sport of fox-hunting in the background, instead of giving every encouragement they can to induce people to come and live in the country and spend their money in keeping a large staff of servants and retainers, everyone thereby, directly or indirectly, profiting by the circulation of large incomes throughout the country. The price of forage that farmers sell is, Mr. Horne says in his article in the March number of your magazine, the market price, therefore not of much advantage, but the market price would not be nearly so high as it is were it not for the enormous quantity required for the fox-hunting establishments throughout England. Nor should be overlooked the handsome "bonuses" that occasionally fall to the lot of the tenant farmer in the way of cast-off hunters, nor the free service of a good stallion kept by members of the hunt. I could quote instances of excellent colts being bred by farmers with none of those incidental expenses associated with horse-breeding. I feel sure that if those who are constantly complaining of the damage fox-hunting causes, either to poultry-keepers or farmers, would honestly look in a broad and unselfish frame of mind they must own that the benefits to all classes in the neighbourhood are far larger than the damage done to any single industry.

JOHN MAUNSELL RICHARDSON.

III.

My letter in your March number to some extent dealt with the points raised in Mr. Elkington's letter appearing at the same time, and I am only concerned now with his concluding remarks on the Utility Poultry Club and on the extract quoted by him from the paragraph in the Year Book referring to this question. The paragraph gives other reasons for the position taken up by the committee, and the extract, as is usually the case, does not fairly represent what was written.

The committee have considered the suggestion that the club should take up the subject, and it was discussed at their meeting at the Dairy Show. The paragraph expresses the views of the committee and is consistent with the resolution passed at that meeting, but I fear I cannot satisfy Mr. Elkington's curiosity as to how far it reflects the opinion of the 1,400 members or so who comprise the club.

The committee have not sufficient evidence to satisfy

them that the undoubted hardships to poultry-keepers which fox-hunting entails exceed the benefits derived from this sport. They have not lost sight of the question, but they have no wish to take up a controversial subject the discussion of which would cause dissatisfaction to a large number of members—not necessarily directly interested in fox-hunting—without, perhaps, doing any good.

If the general body of members wish the club to take up the question, I am sure there is no one on the committee who will not render all the assistance possible, with a view to attaining an equitable solution. But it is unreasonable to expect that an organisation of this sort, upon which so much trouble has been spent, is to be available for exploiting any particular grievance brought before it by a small number of its members.

B. W. HORNE,

Editor of the Utility Poultry Club Year Book.

WHO'S WHO IN THE POULTRY WORLD.

MR. PERCY A. FRANCIS.

SINCE 1901 Mr. Percy A. Francis's principal work in the poultry world has been in connection with the Antrim County Council, whose delegate he was at the National Poultry Conference of 1907. It was in the first-named year that he was appointed poultry expert to that body. In 1902 he founded the Council's Model Poultry Farm, which now covers about sixteen acres and carries 1,200 to 1,300 head of stock, and is a valuable training centre for poultry instructors in Ireland. Mr. Francis also played an active part in the formation of co-operative poultry societies, and believes thoroughly in the principle. In his early days poultry-keeping was not the only pursuit that he practised and preached. Born on his father's three-hundred-acre farm in Wiltshire, and educated at a private school at Warminster, he was an assistant-master, first at his old school, and later at the Westbury Technical Institute under the Wilts County Council and the Science and Art Department. On his father's farm he learnt dairying, and with this practical knowledge to his account started a course of study in this department of agriculture at the Wilts County Council Dairy School and the West of England Society's School at Pylle, which eventually gained him the National Diploma in Dairying at the Scottish Dairy Institute, Kilmarnock.

From his boyhood upwards, however, he was always fond of poultry, and kept some pure breeds, such as White Leghorns and Barred Rocks, until such time as the industry definitely claimed him for its own. This may be said to have happened when he started a poultry farm at Bremeridge, where he established a large stock of utility and exhibition birds and sent regular supplies to the London market. Doubtless the practical expe-

rience thus gained, grafted on to the earlier home training, was an invaluable introduction to the study of the wider problems on which he is now engaged.



MR. P. A. FRANCIS.

MR. T. R. ROBINSON, F.S.I.

ALTHOUGH he has taken a deep interest in poultry all his life, it was not until about twelve years ago that Mr. Robinson undertook the responsible task of teaching others. He was one of the very early students who took the "Reading Course," as it was called in



MR. T. R. ROBINSON.

those days, of which college he holds the certificate. This was followed by a term at the French Poultry School at Gambais, and later he went to America for one of the winter sessions at the Rhode Island College of Agriculture. He has been associated with the Wye College, Kent, almost since that valuable institution was established, where he is lecturer on cattle, dairying, and poultry, and he has shared in several of the poultry experiments carried out there. He has never been an advocate of poultry-farming *per se*, but is a firm believer and advocate of poultry-keeping as an important branch of general agriculture. His sojourn in France taught him the value of Faverolles as a practical fowl, which he was one of the first to popularise in this country, and to his efforts was due the formation of the Faverolles Club, of which he was the first secretary. An active member of many clubs, Mr. Robinson has taken a keen interest in the Utility Poultry Club throughout its career.

MR. AUSTIN G. BROWN.

TO have the "biggest poultry farm" on earth may be a foolish ambition, but to have a successful poultry farm, one which yields adequate returns for labour expended, is a worthy ideal. Such has been accomplished

by Mr. Austin G. Brown at Lakewood, New Jersey. It is indeed a revelation to visit that prosperous establishment, with its thousands of White Leghorns, young and old. The farm is conducted on business lines, and is famous both for itself and its stock.

Mr. Brown is an interesting personality. He is an example of what can be done by the combination of skill, perseverance, experience, and organising ability. But, like a wise man, he did not imagine that a huge business could be built up in a day, or that the knowledge requisite to handle thousands of birds is to be obtained from text-books. Thus when, after a breakdown in health, he commenced poultry-keeping at Lakewood the beginnings were modest in the extreme, and growth has been gradual but none the less sure. A place where 6,000 to 8,000 eggs a day are produced in the laying season means something in the way of control and oversight.

To see Mr. Brown now, as his portrait indicates, no one would think he has ever been on the sick list. Not yet at the meridian of life, he has much experience behind him, and we hope much more in front. Keenly interested in his work, intensely practical, and, like most American poultry-men, ever ready to learn, not afraid of trying new methods, and firmly believing that dealing well with customers is the secret of success, he offers an example of what can be accomplished within the range of a few years.



MR. A. G. BROWN.



Short Entries.

During the early part of the show season, which nowadays commences between the old and the young bird times, it is not altogether rare to find, after the first three or four events have taken place, that in certain breeds the entries are apt to shrink to a surprising degree at most exhibitions where the value of the first prize is over five shillings. This applies particularly in the Midlands and North, and so far as entries are concerned those events are often a mere farce. To give but two examples. At one fixture held early in May, when the summer shows of poultry in connection with the agricultural exhibitions begin, there were 96 Orpingtons in six classes, 149 Wyandottes in ten, and 57 Plymouth Rocks in four; yet towards the end of the same month these breeds at another event were represented as follows: 19 Orpingtons in four classes, 12 Wyandottes in four, and 9 Plymouth Rocks in two. What is the cause of it? One has merely to glance through the catalogues of those two shows to find that in the breeds mentioned at the latter event hardly a single entry was made against those of the well-known professionals. The others fought shy, and perhaps after all it is only natural that they should have done so. Few like continually to "take a back seat"; some must bring up the rear, since there is only one first prize in each class, but how many care to do so?

Where Lies the Fault?

In my opinion the fault lies with those who are responsible for the classification: they have only themselves to blame if their shows fail to attract record or representative entries. It is quite apparent that something should be done to draw the line between the professional, the amateur, and the novice if one aims at catering for the majority. And no one has the matter more in his own hands than he who arranges the schedule. The teamsters will practically do as they like until the classes are graded, more especially, perhaps, in the "between" season. The point is, does the show executive wish to arrange a display of champions, or

does it wish to carry out the original aim of shows and encourage widespread competition for the betterment of poultry? It is generally contended that if the well-known professionals were debarred from entering their birds the show would lose much of its tone, and would, in fact, not be fit to take a place in the front rank. It is a moot point, however, whether most exhibitors, or those who frequent many shows, do care to see the champion exhibited time after time, and getting first and special. It is apt to remove the true spirit of competition.

The Professional Exhibitors.

It is the custom among some exhibitors whose birds cannot hold their own against those of the professionals to complain of the methods of the latter class, and hint at all sorts of ways by which they get advantage over the amateur and the novice. The professionals are generally referred to as pot-hunters, and blamed because they haunt the smaller shows with their teams, carry off the pick of the prizes, and leave the cards for those who care to compete for them. But the professional poultry exhibitor is not nearly so black as he is painted. Although I hold no brief for him, I have invariably found him to be a decidedly useful member of the poultry fraternity. That he might be a more useful member still, if certain abuses, which he is supposed to carry with him, could be got rid of, may be the case.

In Their Favour.

It is, however, well to look the matter squarely in the face. Most of those who are in the poultry Fancy are in it more or less for other than their health's sake. Even the most recent recruit delights in a win, and not always for the honour and the glory of it, but rather for the future business and "filthy lucre" which attach to it. Many of the professionals exhibit poultry as a means of making a livelihood, and have given up the best years of their lives to it; some do it to enable others to live. There is one thing in their favour, and it is not the only one. Professionals as a rule are heavy buyers. When they find suitable birds they give long prices for them.

And they have the means of putting the specimens to much better uses, financially, than have "the small fry." The exhibiting of poultry is not the sure road to making a fortune, as so many people appear to imagine. There are many expenses attaching to it, expenses unthought of by the beginner; and the first prize of twenty shillings, or whatever it may be, is not all profit. It is not to be wondered at, therefore, that the professionals exhibit their birds whenever they can see a likelihood of their being something in pocket. It is simply this: they must win; they cannot afford to lose. The more successes they score the greater will be their income. And, taking it all round, their birds mostly merit all that they win.

Where Lies the Remedy?

Much as some of us admire the professional, there is no question that as a class he is undoubtedly something approaching a menace to the well-being of the poultry Fancy. The fact that professionalism is increasing in the Fancy in the South as well as in the North, and that the professional exhibitor is likely to turn up with a team of winners at even that type of show which ranks in the third class, is quickly destroying the true spirit of competition. Competition is never so keen as when the classes include plenty of fresh blood. But I feel certain that scores of little fanciers refrain from exhibiting because they never know whether they will meet the professional team or not. How, then, can the menace be kept within bounds? That the professional cannot be entirely stamped out is beyond doubt. I admit that I for one would not wish to see it. Moreover, there *are* novice exhibitors who prefer to take a minor award in competition with the "cracks" rather than a prize in a class solely for novices. However, the general idea at present is that the prizes should not be confined to the select few, but should be more widely distributed. Where lies the remedy? In my opinion some of it will be found in limit shows. But that is another question, and since it is a large one I will return to the subject in my next month's notes.

SELECTING CHICKENS FOR SHOW.

BLACK AND BLUE LEGHORNS.

By REGINALD MELBOURNE.

THE weeding out of chickens is always a difficult task, and to the novice one might be almost tempted to say (in these two varieties), Do not weed them out at all. But then, again, if one has not enough room to rear all the chicks to maturity (and a good space is required to bring chickens up to exhibition standard), the attempt must be made to give a few leading points for the guidance of those who have accommodation only for their best.

Black Leghorns.

Black Leghorn chicks when hatched should be black-and-white; this is an important point. Many people

seem still under the impression that a chick from a black bird should be black when hatched; if it is, and room is required, one may safely kill it at once, for it will never be an exhibition bird. Those chicks which have yellow legs when hatched I always mistrust, for they generally turn out cockerels and are smothered in white. They are "wasters" in the exhibition world, but may be very valuable as stock birds, which point I will go into later on. From some strains of Black Leghorns a certain number of chickens marked exactly like Brown Leghorns are hatched. These, metaphorically speaking, should be wrapped in cotton-wool and kept under a glass case, for if they turn out to be pullets they may be relied upon to have clear yellow legs, so it is better to keep them till



A GOOD SPECIMEN OF A BLACK LEGHORN COCKEREL.

matured, as they will turn black as they feather. Some will be short of sheen and be rather "rusty" or grey, but the bird which does come out with a good beetle-green sheen will take a lot of stopping. The explanation of this is that Brown Leghorn blood was introduced by someone to increase leg-colour, and eventually this infusion of alien blood has achieved success; but whether the one who tried the experiment reaped the benefit or not is a question, for I have been breeding from black birds on both sides since 1902, and still find a few of these brown chicks crop up. That the first cross with a Brown Leghorn would not be worth trying now is certain, for the sheen on the exhibition birds is

so good that a rusty specimen, even with clear yellow legs, does not stand a chance at all, and it must take time to get sheen on from the cross. When these brown chicks turn out to be cockerels they generally retain a certain number of brown feathers in the saddle and neck hackle. One might be reserved for breeding from if the strain is thoroughly known and the mating is understood; but they are much too risky otherwise, and may be killed as soon as they are ready.

My ideal Black Leghorn chick is one which makes its début in a dress of black-and-white, legs dark but yellow under the feet, developing a costume with plenty of white in it as it grows, the first chick feathers in the wings being white. When about three months or so old I like the legs to begin to show yellow down the back of the shank, and to see the yellow showing through the

trouble in keeping the comb bright red, which is its natural condition.

In weeding out the cockerels there is much better ground to go on. First kill off those with faulty combs, side spikes, or double serrations. And those birds which are white in under-colour will not do for exhibition, while cockerels which have light-coloured eyes will not do for stock purposes. Cockerels with green or slate-coloured legs can also be dispensed with early, but do not be in too much of a hurry to weed out cockerels which have rather dusky legs, for they will often clear a lot. Also more latitude is allowed in leg-colour in a cockerel as long as he is "black to the skin" and has good head-points and carriage.

This is about as far as one can go on the weeding out of chickens, but a few points on mating will perhaps be



BLUE LEGHORNS.

front of it; also such a chicken can always be relied on to come out with a glorious sheen, and, if a pullet, the sootiness generally clears off the front of the legs just before she commences to lay. Here is the ideal bird in its natural state; such a one can easily be kept in condition. Nature has provided a better sheen than any scientific knowledge of feeding, &c., can supply. There is no trouble to keep condition, if only given plenty of fresh air and exercise. Take care not to let the bird be in the sun when it is fierce, but do not go to the other extreme and not let it see the sun at all, or there will be

helpful as a guide to the final clearance of all superfluous stock. In mating or reserving birds for breeding from the first point to consider is what you are aiming at, exhibition cockerels or pullets, or both. If both, it means two separate pens. For cock breeding choose the stock bird with as solid under-colour as possible and with good head points. Remember that any fault in comb will be reproduced in eight out of ten of the male chicks. This will help the breeder to harden his heart a lot in culling out the chicks for killing. The stock bird's legs may fail a good lot.

Choose hens or pullets to mate with him with combs as thick at the base as possible, well serrated and evenly cut; and the lobes, of course, should be good in both parents. The hens should have sooty legs. Only a general rule can, of course, be given on this subject of mating, and common sense must be used. The chief thing to remember is that in their natural state most Black Leghorn cockerels have yellow legs and show a lot of white feathers, while the pullets have solid colour and dark legs. For breeding pullets choose a cockerel with clear yellow legs, rather thin comb, and showing a lot of white, especially white under-colour. And the hens must have as yellow legs as possible. This is not



A BLACK LEGHORN PULLET.

the time of year to go into full particulars of mating, but this rough idea is necessary to help the novice in selecting a few of the apparent "wasters" to keep for mating up the following season.

Blue Leghorns.

The introduction of this variety caused a paper warfare which lasted for months. We were all agreed on what, after all, are the main attributes to success in any breed—viz., that Blue Leghorns were hardy and were very good layers of large white eggs; but the trouble arose in determining which was the most desirable colour to be accepted as the standard. Finally the clubs

decided the standard should be "clear blue" in both cocks and hens.

Blue is a colour very difficult to fix, so competition in this new variety will be extremely open, and herein lies everyone's chance; and as a good open speculation they are worth going in for. Having a club of a hundred members or so, they will be liberally catered for, and there is bound to be a big demand for really good birds. The mating to produce exhibition stock seems at first a little complex, so it will be better before going on to the weeding out of chickens to think for a few moments on the mating of the stock birds. The ideal bird should be clear blue, free from lacing, and with clear yellow legs.

Now take the origin of the Blue Leghorn. It was, or should at any rate have been, produced from a cross between black and white. Thus, for the sake of conciseness, we will call black and white colours. In this bird, the Blue Leghorn, we have black pigment and red pigment, which kill one another and produce white. And yet certain combinations produce also yellow in the leg and blue in the body. That this sounds fearsome I admit, and I do not intend to go into a diatribe on the relative values. But it is sufficient for the purpose to say that certain qualities of Blues mated together produce a good average of Blue chicks.

In mating I use a cockerel with a dark top—black top, if that term is preferred—with as deep a blue breast (free from lacing) as possible, and pullets the deepest shade of blue obtainable. If they have dark hackles do not discard them. This is all I dare say on this point. The breed is too new to lay down any stringent rules. This mating will at least breed exhibition pullets and cockerels from the same pen. If the cockerel is nearly clear blue mate to very deep, even "dusky," pullets—if with a black hackle all the better. If the pullets are clear throughout use a dark-topped cock. If clear light blue cockerels are mated with clear light blue pullets they will breed 99 per cent. a dirty white, and the odd hundredth will be "dead in shell"!

Now for weeding out. Well, take all which are not blue, and all cockerels with side-spikes or faulty serrations. Do not discard any for having dark tops, for black is preferable to brown in hackle. Cull all failing in leg-colour; this applies to both cockerels and pullets, and this advice is stretched to its utmost limit on this new introduction. One point may be emphasised: Blue Leghorns are really magnificent layers, winter and summer, and they will more than pay for their keep.

POPULARITY OF BREEDS.

THE INFLUENCE OF THE FANCY.

By A. T. JOHNSON.

IF the estimate of a breed's usefulness may be measured by its popularity in the show-pen, there are many varieties to-day which must be shelved by the ambitious poultry-keeper, as wanting in those qualities which go to

ensure success. But it may be urged, and perhaps rightly so in some instances, that the economic value of a breed is not determined by fanciers and show promoters, and that the latter, as a class, have done more harm than good to our poultry from a utilitarian's point of view. The fact, nevertheless, remains that the most popular breed of any given period is invariably that which the Fancy has adopted, and, whatever the arguments brought against the promotion of exhibition stock by the utility poultry-keepers may amount to, it is common knowledge that a breed, when once it has gone out of popular favour as a fancy fowl, rapidly diminishes in numbers—and often in quality—towards extinction. It is just the same in the realm of horticulture or agriculture. Remove the influence often sneeringly referred to as "the Fancy," and deterioration sets in. There is a marked retrogression to some earlier type.

There are some notable exceptions to this, I am aware, in the persons of breeders who have made the perfecting of one variety of fowl, from a laying or other economic standpoint, a life study without ever winning a prize or attempting to do so in a fancy show. But these *are* the exceptions, and there is not one poultry-keeper in a hundred who can afford to isolate himself from the fashion of the day—not one in a hundred who has the ability, capital, and personality to run contrary to the times. The slur that utility breeders often cast upon fanciers—viz., that the latter are ruining their breeds of poultry—is not substantiated by facts, for we notice that in the laying competitions it is the popular fancy breeds which are not only numerically the strongest, but which win the prizes as the best layers. Sometimes these highly developed egg-producers are not directly the product of a fancier's yards, but they came originally from them.

It is the fancier who has given us the Orpingtons and the Wyandottes in all their multifarious varieties, and it is the fancier who has saved many a useful breed from extinction. He knows quite well that it is not much use bringing out a breed these days unless it has some economic property to support it. The utility poultry-keepers of the country are, indirectly, the fancier's best customers, since they buy that enormous percentage of young birds which are not good enough, from a Fancy standpoint, to keep and yet are too good to kill. Nineteenths of our small poultry-keepers—and they form a very large body in themselves—who keep one or two breeds both for a hobby and for utility purposes get their stock direct from the large breeders and exhibitors. They choose, if they are wise, a popular variety if they want to indulge in a little showing and sell a few sittings of eggs, and I do not think they are generally disappointed if they go to breeders of repute and pay a fair price.

That line of demarcation which is supposed to exist between Fancy and utility stock is not nearly so evident as it used to be, even in the eyes of prejudiced persons. For, strong as the Fancy is, it could not flourish as it does if it were not for the commercial side of the industry, and, as I have shown, it is always the most

vigorous when it is infused with a strong blend of utility features. The reader must not imagine that I hold a brief on behalf of the Fancy. Rather I would endeavour to point out that it is not so black as it is painted by some people, and that the most promising condition of affairs is that in which both the fancy and utility poultry-keeping are infused one with the other.

The fancier, for example, has been accused of ruining the Minorca by excessive breeding for head points; and while I fully admit it to be true regarding some strains, the Minorca, on the whole, is now suffering from a passing phase of unpopularity which is neither its own nor anybody's fault. Breeds rise and fall in public favour, often through no apparent reason. Or a new variety is brought out, and, very naturally, if it has good qualities, everybody rushes for it, just as they do for a new kind of potato or the most recently introduced tomato. Thus the Black Leghorn has very largely superseded the old White variety; the Partridge and Black Wyandottes have almost swamped their predecessors; the Buff Orpington has far outstripped the earlier Black variety in the race for popularity.

The Plymouth Rock was at one time a greater favourite with exhibitors than it is to-day, though it still has many doughty champions. At the same period it enjoyed a more universal favour with utilitarians than it now does, and the poor fancier has here, once more, been accused of spoliation. But I do not believe the Plymouth Rock is a worse layer to-day than it was, nor a worse table fowl. In fact, it is probably a good deal better; only there are some breeds, of later introduction, which are better still, and it is on that account that we may often unjustly accuse the Plymouth Rock of deterioration. Furthermore, we must ever remember that, numerically, the Plymouth Rock is to-day hopelessly inferior to, say, the White Wyandotte. There is, perhaps, only one strain of the former to twenty of the latter. Is it not easy to understand, therefore, that, were the Plymouth Rock as numerous as the Wyandotte, it might yield out of its multitudes some "record layers"? The one has been given a chance; the other has not.

We can, with perfect justice, look upon the Plymouth Rock, the Minorca, or any other fowl which has once proved its worth as a latent possibility full of promise for the speculating breeder. Do not those utility poultry-keepers who have "specialised" in Minorcas (or any other comparatively unpopular show breed) during the past ten years or so, irrespective of whether their favourites filled the classes at shows or not, prove the truth of my assertion? The example set by these people is a most worthy one, which more commercial poultry-keepers might study. Rather than cry out against the fancier for the alleged spoliation of breeds, why does not the utilitarian more frequently get strains of his own and stick to them? If the fancier desires to exercise his scientific skill in the production of "feathers" and "points" he has every right to do so. The utilitarian has his remedy. Why does he not show his independence instead of complaining like a child over a broken toy?

FANCY AND UTILITY.

To the Editor of the ILLUSTRATED POULTRY RECORD.

SIR,—There appears to be every prospect of the various communications in your journal on "Fancy and Utility" leading to some useful and very desirable results. Your editorial staff comprises specialists and well-known authorities on every branch of poultry-production and of poultry exhibitions. In addition to this, your readers have the immense advantage of full reports from your sectional editor on "Education and Experiments."

Readers of the ILLUSTRATED POULTRY RECORD, therefore, hope that, under your guidance, decided progress may be made in the permanent solution of the vexed question of the relation between fancy and utility.

It is a very old story, as Mr. W. W. Broomhead remarks, that of the spoliation by the fancier of the useful properties of poultry. But it is a story that is now receiving regular and frequent additions from the utility laying competitions. Although these competitions are as yet in their infancy they are beginning to teach us a good deal, and eventually we may attain sufficient knowledge to enable an English poultry-farm to pay. The main point at issue is whether the pure-bred exhibition fowl is, or is likely to be, also a good utility bird. Has the show specimen of any named variety become different and distinct from the utility specimen?

To start with, there is this essential difference in the present day between exhibition birds and utility birds. The only way to obtain the excessive size required in the show-pen is to feed almost exclusively on soft food, in order to force growth and procure early maturity. I remember reading, a few weeks ago, a description of a poultry establishment belonging to a well-known and successful exhibition fancier, in which it was stated that the birds never got any dry food from the time they left the shell. Their only diet was soft food.

The result of this system is abnormally rapid growth and maximum size. But it is very well known that such feeding and such forcing is not conducive to stamina or to the production of good stock birds, and that no breed can be subjected to this sort of treatment for any length of time without marked constitutional degeneracy.

The tendency of breeding for size is without doubt the production of a delicate and tender bird with all the attendant evils; in fact, the bird bred for exhibition is fed much the same as the bird meant for killing. From the time of hatching, therefore, the bird for exhibition is on a different footing to the better fed and more hardy fowl that has been reared with a view to being kept for utility only. No one who is aware of the manner of feeding and treating exhibition poultry would expect them to be or to produce good layers; and unfortunately 95 per cent. of these soft-bred birds are sold as utility stock, because they are not good enough to show. That is where the harm is done.

The effect of this has already been felt in the case of the Leghorn. At the three latest laying competitions—viz., those of the Northern Utility Poultry Society at Burnley, of the four months' competition at Bagshot, and the twelve months' trial at Theale—the fact was established that the best laying weight for a Leghorn is only between 3lb. 6oz. and 4lb. 6oz. This latter weight was the average of the White Leghorns competing at Burnley. Both at Bagshot and Theale the average weight was less. Exhibition hens are a good deal heavier than this in most varieties of the Leghorn. If the specialist clubs that cultivate the exhibition of Leghorns worked with a due regard to utility, they would be influenced by the results of these utility trials. As far as I have been able to ascertain, there is only one of these clubs which has taken this lesson to heart. The well-known president of that club lately wrote: "The unnatural development of size is generally found to be prejudicial to the laying capacity of every fowl. So long as a hen lays a large number of large eggs, the smaller she is the better," &c.

Generally speaking, leading breeders of all Leghorns now admit that the English exhibition bird is distinct from the utility bird. The veteran president of one of the specialist clubs connected with Leghorns recently wrote: "The exhibition White Leghorn of to-day is not so prolific as the bird of thirty years ago. . . . The falling-off is due to alien blood having been introduced and the type altered. . . . With the increased leg and type they have lost much of their prolificacy." Another prominent breeder of Leghorns writes: "The exhibition White Leghorn is built on much heavier lines than the utility bird; it is much taller, longer in leg, and carries head points that would compel attention on a Minorca. It is not the slightest use to put on the show bench the little utility Leghorn; the exhibition specimen must be large. . . . The utility Leghorn is somewhat different to the American, and the exhibition Leghorn is far different to both."

The opinions of many other well-known breeders might be given to show that most Leghorns—the Whites in particular—may now be divided into two classes—viz., the exhibition and the utility fowl, a result due largely to the "all-pervading craze for size." It is therefore clear that there is a danger of the Leghorn passing from a purely utility bird, through the show-pen, to a fancy breed. And it is much to be feared that the Minorca is following along the same road, and that the craze for size, for excessive comb, lobes, and wattles will before long ruin this breed. There is as much difference in appearance between the big exhibition Minorca and the utility Minorca as there is between the exhibition and utility White Leghorn; in fact, nearly the whole of the Mediterranean group is apparently getting on to the same road that their Spanish kin have taken before them.

And unfortunately we find very much the same sort of thing taking place in the case of other breeds. The great size, large bone, and loose feathering of the handsome exhibition Orpington prevent the possibility of

utility. The laying strains of Orpingtons, of which there are still several, are of quite a different stamp to the show birds. The average weight of the Orpingtons taking part in the Bagshot and Burnley Laying Competitions was in each instance about 6lb. This is not much more than half the weight of the exhibition Orpington hen.

This difference in stamp, as in the case of Leghorns and Minorcas, is mostly of recent date, and is attributable to show standards being made out "irrespective of economic qualities." In fact, during the last few years fancy and utility have been getting further and further apart, and not, so far as I can see, gradually blending with each other. But there is no necessity for this senseless separation, for it can be so easily remedied. It closes the door of the poultry show to a large number of desirable recruits for the poultry Fancy. There is a numerous leisured class in this country, many more of whom might become poultry enthusiasts but for the gap they believe to exist between the exhibition and utility of poultry. To bridge this gap would be much to the advantage of all those interested in the breeding and showing of exhibition poultry.

There is a large area, containing much precious metal, open to development by exhibition poultry-breeders, but we shall never get beyond the border of it till the fancier changes his present ideas and brings the show standards into conformity with utility requirements.—Yours, &c.,

EXHIBITOR.

MEN AND MATTERS.

By W. W. BROOMHEAD.

IT has been generally found that if there is anything really good in a new variety it will "go," but that the most sure way of bringing its merits before the public, and thus popularising it, is for its supporters to form themselves into a club and get the variety boomed whenever it is possible to do so. This is being recognised by those poultry-keepers—and if report is true there are many such—who have discovered a fourth variety of the Sussex fowl. And it is very probable that ere now another single variety club has been added to the already long list of specialist poultry clubs. It is, of course, meeting with opposition; that is the outcome of most new clubs. But its supporters must be given credit for having done all in their power to get the "mother" club to take the variety under its wing ere they decided to start out on their own. The question of adding it to the existing varieties was the subject of a special general meeting of the Sussex Poultry Club, recently called at Lewes; but after a lengthy discussion the proposal was lost by 9 votes to 5, not an overwhelming majority by any means, especially in view of the fact that, to quote from the official report of the proceedings, "several members present spoke

against the advisability of adding another variety before the present varieties were properly established."

There is certainly much truth in that objection, because the Sussex fowl, despite its very ancient history, is not yet properly established. In the first place, it is not very much known outside the county of its origin; more particularly, perhaps, as regards the breed from an exhibition standpoint. Secondly, there are too few of those poultry-keepers who make it a specialty who appear thoroughly to understand the best way of mating stock birds for the production of show specimens. In my opinion, however, this latter is largely due to the fact that the standards adopted by the Sussex Poultry Club aim at too high an ideal for a commencement. I am aware that these standards have been altered twice or thrice since they were originally drawn up. But they are too ambitious; they have advanced too rapidly, and much more is made of apparent defects than should be the case with a practically new breed. I had occasion to point this out in some notes which I contributed to the 1909 Year Book of the Sussex Poultry Club; and although my criticisms, I understand, met with much adverse comment in certain quarters, I still maintain that if my suggestions were carried out it would be for the good of the breed.

Now, as regards the Brown Sussex, since that is the name of the newest variety, the title does not adequately describe it. And therein, perhaps, lies a stumbling-block. As I previously pointed out in the RECORD, when commenting on the separate classification which was given for the Brown at Lewes Show last year, a variety bearing that name has been in existence for some time—ever since, in fact, the Sussex Poultry Club was formed, the three varieties recognised by that body being the Speckled, the Light, and the Red (or Brown). It must be admitted that lately the last-named variety has been known as the Red, a title which is certainly a more appropriate one than Brown, since it describes its colour. But the Brown is, after all, a misnomer. There is a precedent, maybe, in the Brown Leghorn; but it must be recollected that the original Leghorn of that name was a vastly differently coloured bird from the one of the present day. However, the new variety of Sussex fowl differs from the three so far identified with the breed, and a much more appropriate cognomen for it would be Black-red, or, to give it its full title, Black-breasted Red.

The original standard for the Red Sussex, which was drawn up, I believe, in 1903, was unquestionably a false one, in so far as those who were responsible for it insisted on the brown breast and the glossy brown neck hackle striped with black. It is well known, however, that such a male bird is somewhat of a rarity, and that when he has been bred he will not throw birds like himself. This is, of course, not an unusual thing when breeding for Fancy points, and it necessitates the use of double mating—that is, the mating of certain birds for the production of show cockerels and others of different colour and marking for that of exhibition pullets. I do not say that it will be possible to breed the so-called

Brown Sussex to standard requirements by single mating, although we must not overlook the fact that black-red is the natural colour of the original ancestor of our domestic poultry—viz., the jungle fowl. It is to be hoped, however, that ere the new club has made much headway it will see the force of these remarks concerning the suggested change of its title, since, in my opinion, the change would be a beneficial one. One thing I can see looming in the not very distant future is the disappearance of the Red Sussex if the Brown gets anything of a foothold.

I have it on very good authority that fifty-two circulars have been sent out to the specialist poultry clubs of this country on the question of holding a great combined annual show, as suggested by the Black and the Buff Orpington Clubs and mentioned last month in my notes. Up to the time of writing I understand that about a score of replies have been received at headquarters, and ten of them are from clubs whose members are in favour of such a venture. One is opposed to it, and the remainder are from secretaries who wish for further particulars. It may, perhaps, be thought that the response is not very encouraging; nevertheless, knowing the Fancy as I do, and considering that it is yet early, I do not think that the result is by any means bad. It is highly probable that the majority of the thirty odd secretaries who have not yet acknowledged receipt of the circular (a by no means rare occurrence in Fancy circles) are waiting for an opportunity of placing the matter before their committees. It must be admitted, of course, that the present is not a good time of the year in which to work up sufficient enthusiasm on such a subject to enable its promoters to make much headway; few specialist poultry clubs hold their meetings in summer. The scheme came too late to be considered ere the 1908-9 exhibition season had waned, and since that was so it would have been much better to have left it in abeyance until the autumn and winter shows of 1909 were in full swing. If a meeting could be arranged for next Dairy Show it is likely to be well attended. In the interim, however, those who have the scheme in hand should not let the grass grow under their feet. It was once thought that the great combined event would come into being this year, but that, I think, is entirely out of the question, unless it is rushed in at the end of the season, which would not be a wise move. A big show, such as a combination of the majority of the specialist poultry clubs would be, requires to be very carefully worked up, and if the event is to take place in 1910 there will be no time to lose after the opening of the autumn session for the executive to get its house in order. No doubt the question of finance will be the rock on which many clubs will split; to carry the affair through to a successful issue there will probably have to be a big guarantee fund, irrespective of that put up by the combining clubs.

One of the oldest breeders and fanciers of the genuine Croad Langshans is Mr. R. O. Ridley, and at Docking Hall, King's Lynn, he keeps a good stock of the variety. First prizes figure prominently among the wins which

his birds have been awarded in the exhibition arena, and successes at such important shows as the Dairy, the Crystal Palace, Manchester, York, and Leeds have been secured by them. So far this season he reports good business, and he has sold over 700 eggs for setting, several lots going to the North of England and to Scotland. Eggs have been exceptionally fertile this year, and nearly every one has hatched. Mr. Ridley does not rear very many chickens, since his men have to attend to pheasants and partridges, but he has over 150 February- and March-hatched birds. He finds the Croad Langshan hard to beat for all-round purposes, and since he gets the pullets well developed before they start laying, the eggs are of good size. As a proof of their hardiness it is only necessary to say that at Docking Hall, where the fowls have free range, they are exposed to north and east winds; yet they are splendid winter layers.

One of the finest and most complete collections of Old English Game Fowls and Bantams bred to standard requirements is that which is to be seen at Coombe Abbey, Coventry, and is owned by the Countess of Craven. The stud is attended to by one of the keenest Game fanciers of the present day, and it is under the supervision of Mr. W. Spicer, who is also greatly interested in the breed. As a result of this year's hatching season, which has now finished at the Abbey, there are over 1,000 chickens, and among them are several early batches, so that a good selection can be made for the summer shows. The chickens which were hatched in January and at the beginning of February have done well, but towards the end of the latter month there were some losses. However, since that time the birds have not had a check, and the result as a whole is highly satisfactory. The breeding-pens each season consist of the pick of the stock for years, hence it is seldom that "wasters" appear in the progeny. Not many of the old birds are disposed of at home, but exceptions are made in the case of birds for abroad, and in April last a large consignment was exported to South Africa.

From Harlow Farm, Harrogate, where Mr. W. Smith Lambert has full charge of Mr. O. F. Bates's poultry-yards, comes the report that the January- and February-hatched chickens have not done quite so well as the earliest birds of previous years. Nevertheless, there are a few showing great promise, and they include both Golden- and Silver-Laced Wyandottes, which have the appearance of being ready for the early shows. During the two first months of the year eggs did not prove very fertile, and this was especially the case in the pens of the foregoing varieties mated for pullet-breeding. But as the fertility of the eggs improved in the spring the chickens hatched in March and April were more numerous. Taken all round, the quality is well up to the high standard of the Harlow birds.

An attempt to inaugurate a club for the Jubilee Orpington was made last month, but the meeting, which was called for June 2, was a dismal failure. Although the Jubilee Orpington has been before the

public for some years, it is not kept to such an extent as to guarantee its supporters forming a club; and I question if there are more than a score of fanciers who go in solely for the variety. As one of the three fostered by the Variety Orpington Club, it has received, and no doubt will receive, every encouragement, but the time is not yet ripe for it to have a club all to itself. Another attempt to launch it may be made in the autumn. However, to do good, a single variety club requires a big membership roll at the outset, and that certainly does not exist at present.

The recent decision of the Poultry Club Council on the question of plucking the tails of Pekin and Brahma Bantams will be welcomed by all those fanciers and exhibitors who have the well-being of these breeds at heart. It only remains for the Council to consider seriously the question in relation to some breeds of fowls to make a complete sweep of the fraudulent practice. It might commence with Buff Orpington hens. To exhibit such birds with some of their tail feathers drawn or just shooting the quill was not exactly rare last season, and more than one well-known bird which I handled was so penned for competition. Among the latest show rules of the Poultry Club, however, there is one dealing with the exhibiting of adult birds in what may be termed an incomplete state; and it is to be hoped that in future the judges at shows held under Poultry Club rules will pay more attention to the rules than they apparently have done.

I see that a new society has been formed for the Malay fowl. This is the Malay Breeders' Association, of which Mr. H. Fabian Russell, of 3, Tokenhouse-buildings, Moorgate-street, London, E.C., is the hon. secretary. Among the list of members are the names of most of those fanciers who have been exhibiting the breed for many years; but as some fresh blood has been infused into its ranks, it is highly probable that the Malay fowl will once more come to the front. The United Malay Club is an old-established society, but, like so many of its contemporaries of similar age, it appears to have lost touch with present-day breeders, and of recent times very little indeed has been heard of it beyond its annual club show, which has generally been held in the West Country. To keep a breed well to the front, more particularly if it is one which has been in existence for half a century or more, requires the constant infusion of fresh blood; when it dwindles to a "select few" its cause is generally a lost one.

New specialist clubs are constantly cropping up in the poultry Fancy. Among the very latest is that for Wyandotte Bantams, of which Mr. Tom R. Grant, of Sunny Bank, Abbots-lane, Coventry, is the hon. secretary. Mr. Grant was for some years closely identified with the Blue-Laced Wyandotte, and I believe he was the first fancier to attempt "bantamising" that variety. So far some thoroughly representative Partridge, Silver Pencilled, and White Wyandotte Bantams have been exhibited; and when I last saw classes for the Blue-Laced that variety was not far from the Bantam stage. Size, however, was never a strong point of the Blue-

Laced Wyandotte fowl, and I do not recollect having ever seen a big one. There is plenty of scope, however, for the breeder of Wyandotte Bantams, and with a prospect of forty members to begin with the club should have a good send-off.

The summer show season has now opened, and one of the most important events was the "Bath and West," held at Exeter. It generally attracts a few of the "big guns" of the poultry Fancy, despite the prolonged time over which the show is held; and this year there was the usual attendance of "teamsters." The entry, if anything, was much better than is usually the case, and in the classes for old birds some well-known champions of past seasons were staged. It was the general opinion that for quality the 1909 exhibition has not been surpassed, and as regards numbers it was about a record. Over 700 entries, since that was the total, are, however, too many to be judged in good time by two fanciers, no matter how experienced they be in the matter of handling birds. It was not surprising, therefore, that judging was not completed until well into the afternoon. It is a pity, however, that a certain amount of "red tapeism" prevented Pressmen being admitted into the poultry-shed until the whole of the awards were made. This sort of procedure is old-fashioned and a bar to progress.

On the whole, there was a nice entry at the Welsh International Show at Treorchy. It could have been better, but it followed too closely on a fairly long string of Whit Monday events. However, the executive must hope for better results next time. At the Northampton County Show at Thrapston several prizes were withheld in the poultry section. This withholding of prizes is a vexed question, since in the majority of cases it is governed solely by the number of entries in each class. One does not so much complain about it when a show is being run by a struggling fanciers' society, but one hardly expects it at a county agricultural show, unless, of course, there is lack of merit in the specimens exhibited. But this seldom happens when the prizes are good.

The "Royal Counties" Show at Reading again proved a great attraction, and, as at the "Bath and West," there was a record entry, a grand array of champions, too much work for two judges, and a late finish. But it differed from the West Country event in that Mr. Wing, who manages the poultry section, knows the importance of allowing reporters to work in ease, and permitted members of the Press to enter the marquee as soon as the judges had finished one row. But the "Royal Counties" is in every way up to date, and it is not surprising that it is a popular event. Despite the reported dearth of early chickens, the classes for birds hatched in 1909 averaged well, and some of the entries were: 47 Wyandottes, 34 Orpingtons, and 22 any other variety. Many of the chickens, too, showed remarkable development, not only of body and headgear, but of feathering, and in the latter respect some of the birds entered had moulted all their chicken feathers and donned the harder plumage of adults. It is extraordinary how some exhibitors can grow chickens in just over five months.



Dead Poultry Classes.

That poultry shows might have a much more considerable value for producers of marketable produce is a statement that probably needs no insistence, and this is especially true of the dead poultry classes. That the educational value of such an important section of an exhibition, particularly when it is included as a department of an agricultural show, is not greater than it is in the majority cases, is largely the fault of those who are locally interested in the commercial aspect, but who generally fail to secure adequate representation upon their committees, and to fill properly such classes as are provided with representative exhibits. The success of a show in all its sections is the ambition of the enthusiastic committeeman, and although the mainspring of his activity may be a particular "fancy," he would in most cases welcome the practical assistance of commercial producers in the development of the dead poultry and the egg classes. That this is the modern tendency of the professed fancier is shown in the provision of such classes at many poultry shows that are totally unconnected with agricultural events, and it is somewhat churlish of the avowed utilitarian to ignore the opportunities provided, or to respond to the invitation in a quite inadequate manner. Moreover, the neglect to fill such classes, or to leave the filling of them to the inefficient, is not only to show a lack of public spirit, but deliberately to throw away valuable opportunities for advertisement. It is the usual excuse of the men principally and profitably engaged in this branch of production that there is too wide a difference between the standard of some judges and that of the market salesman; but if instead of refusing to submit their handiwork they accepted the implied invitation to assist in the work of organising and managing, the cause of discontent might be avoided. Until the practical market producer takes a hand in the work the majority of dead poultry classes (apart from the few great events) will continue to be unsatisfactory, and misleading to the extent of their limitations.

The Pullets.

Continuity of supply, whether of eggs or chickens, is a matter demanding the serious consideration of the producer; and his management of his growing pullets must depend on the purpose for which he is rearing them and on the period at which he requires them to come into profit. In the desired regulation of the egg supply, for either purpose, there is a frequent failure to recognise the bearing of the treatment of the pullets upon the commencement of their production. The chicken-producing farmer, with an eye to the early trade, usually attempts to adjust matters by the reservation of May-hatched birds; and a favourite method of dealing with the hens is to run them in a field, distant from the rick-yard and other sources of more abundant food supply, until about the commencement of December. A week or two before the eggs are required for setting these hens are brought nearer home, and their sparse feeding gives place to a full diet containing plenty of meat—the usual result of which is a sufficient egg supply when incubation is essential to the particular requirements of the production. In the matter of ordinary egg-production, however, the old custom of running and feeding the birds together without discrimination still largely prevails, although it is more generally understood that breed, strain, and date of hatching are factors influencing production. Neglect subsequent to the hatching of the right birds at the right period is therefore often sufficient to nullify the object of the half-learned lesson. To continue too long the feeding of the pullets that are intended for future laying upon the soft food that quickly ripens the chickens for market is to force egg-production before a desirable maturity has been possible of attainment. For the ordinary purposes of egg-production the pullets serve the object of their rearing better if they are grain-fed from the age of about three months; the diet suitable to induce production being a matter for early autumn consideration, the feeding in the interval being chiefly confined to the various suitable grains.

"Shooting the Red."

The uncertainty of turkey-production is intensified during the first two months of rearing, although the risks are relative to the stock and the conditions under which they are bred, but with the appearance of the characteristic excrescences upon head and neck—the fleshy tubercles and conical carunculated growth—the birds may be hardened without much fear of decimation. Summer showers may be ignored, and, in place of the previous constant watchful attention, the birds may be safely left to go their own way within reasonable limits; and the more extended the limits, the better will be the progress and final result. In the freedom of fields and woods the poults will grow out at a rate impossible of attainment in any conditions of closer confinement, the naturally found insect and vegetable food doing more for growth and development than any hand-fed substitute; and the

enforced activity incident to wide foraging being as beneficial to the digestive process as the destruction of pests, consequent upon their voracity, makes for the good of the farmer and his crops. The keynote of successful turkey-rearing is to be found in a progressive treatment, as regards feeding and the necessary changes in relation to extent and character of range; and when the poults begin to cover a more considerable and food-bearing area, the balancing of the dietary must be

coincident lest the hand-supplied food disinclines them to search for that which is preferable. Upon an average farm, with its almost endless possibilities in this particular, very little food need be supplied to the growing turkeys when once they have appreciated their freedom, but that which is given them must be suitable. There may be a considerable reduction of soft food and a freer use of grain. When new corn is available it may be used with considerable advantage, as it is by some of the rearers in the Eastern Counties, and as we have found in our own operations. Wheat is in any case an excellent grain for free running growing turkeys, and as these birds cannot stand a sudden change of diet a few grains of small wheat may be given them from quite the commencement of rearing.

A SUSSEX FOWL-HOUSE.

THOUGH the Sussex "ark" is *par excellence* the characteristic Sussex poultry-house, there is another, on somewhat similar principles, that may often be met with, very simple in construction, easily moved about, and suitable for many different purposes in poultry-keeping. As will be seen from the photograph, it consists of a low wooden house, standing on the ground, with a sloping roof and four handles for moving. The length is 6ft., width 3ft., height in front 3ft. 2in., back 2ft. 4in. The framework is constructed throughout of 2in. by 2in. scantling, and the roof is made of feather-edged boards. The sides can be boarded in with any kind or thickness of wood that is desired, but rough country boards, $\frac{1}{2}$ in. or $\frac{3}{4}$ in. thick, are generally found most suitable, as in the house shown. The top bars of the framework are each 8ft. long, the



A SUSSEX FOWL-HOUSE.

[Copyright.]

projecting ends being rounded off to form handles. The floor is made of spars, about 1in. wide, of which the sides are bevelled away as shown in photo, so that the droppings fall through them directly on to the ground. The house rests on the four uprights (which should be thoroughly tarred or creosoted for some distance up), so that the horizontal framework is entirely off the ground and well protected from damp; the edges of the boards forming the walls just touch the ground all round, to exclude draughts and vermin. These houses will shelter a great number of chickens in perfect health, and where the laying birds are allowed to lay in the hedges, &c., and no nest-boxes are required, the houses are also very suitable for their accommodation.

BEST TABLE BREEDS OF DUCKS.

By H. DE COURCY.

WHEN ducklings are to be raised for the table, breeds of the smaller kinds, such as the Indian Runner or the East Indian, are practically worthless, because, though exceedingly productive, they do not fatten readily, and it is a most difficult matter to put flesh on them or to bring them up to desirable weights. When the smaller breeds are excluded from our consideration, only a few are left from which to make a selection—the Aylesbury, the Pekin, the Cayuga, and the Rouen. Of these the Rouen attains a great size,

in winter. Either breed suits excellently for the table-duck industry, but the Aylesbury is most in favour, chiefly because of its rapidity in attaining a marketable weight. When properly handled it is quite ready for the table nine weeks after it has emerged from the shell. Very good results have been attained by crossing these two white ducks, and in this country the Pekin duck has been largely used to impart vigour and prolificacy to the sluggish Aylesbury.

There are so many ducks of worthless strain to be picked up at a small price that the beginner is apt to make the mistake of starting with inferior stock. This is a pitfall to be avoided, and it is better to expend a



AYLESBURY DUCKS—THE PREMIER TABLE BREED.

[Copyright.]

but is dark in plumage, and the Cayuga, because of its intensely black feathering, is practically "impossible" as a market duck. It certainly fattens well, and has flesh of fine quality, but the skin is dark, no matter how carefully the pin feathers may be removed, and the labour of getting one Cayuga duckling ready for the oven is greater than that of preparing three Aylesburys.

Of white plumaged ducks, the Aylesbury is first favourite in the British Islands, and the Pekin comes a close second. Both are large-framed birds, and capable of being fattened without difficulty. The Aylesbury has the advantage of whiter skin and flesh, but the Pekin is more productive, and lays earlier

few pounds in the purchase of the best birds that can be got—just a few of them to start with—than to spend the same sum upon a larger number of low-grade birds. In this way a good foundation may be laid, and there is little difficulty afterwards in maintaining the high quality of the stock, and even improving it, from year to year. This can be done by exercising judgment in the selection and mating of the breeding stock, and in no other way. With regard to profitable duck-raising, we have more to learn from successful American duck growers than from those at home who are engaged in the pursuit, because the same progress has not been made at home that has been made in the Western Continent within the past

fifteen years. The American duck industry has grown to extraordinary dimensions within the time named. The following is the method of selecting breeding stock recommended by Mr. James Rankin, who is one of the most experienced and successful of duck-raisers. He says: "We do not believe in carrying any considerable proportion of one- and two-year-old stock over for breeding purposes. All our growing stock we push for all they are worth, and get all the growth we can in the shortest possible time. The young birds for breeding are picked from the growing-pens before the birds go to the fattening-pens, and only the choicest, most vigorous, and healthy specimens are reserved for breeding. The drakes for the following season's breeding are usually selected from the January- and February-hatched ducklings, and these are put aside in special yards to be kept for the winter matings. The ducks are not selected until the March and April hatchings have begun to develop, as ducks mature faster than drakes, and the ducks which are hatched in March are well fit for breeding the following November or even earlier."

On a farm where ducks for breeding are kept by the hundred, the feeding of them during that part of the year when they are not producing eggs is an expensive item, and for this reason only a small proportion of old stock is held over throughout the unproductive season, to be used as breeding stock for a second year. Another reason for relying upon young ducks as breeding stock is that, by highly nutritious feeding, the birds are forced to perform their best work during their first year. After they have ceased laying at the end of the breeding season, the sooner they are disposed of the better. Another point which is worthy of consideration is that ducks of a year old can be readily fattened and sold at a remunerative price for table, or they can be sold for breeding, whereas if they run to two or three years of age it becomes almost impossible to dispose of them, and they remain a dead loss on one's hands.

SELECTION AND REJECTION OF STOCK.

By J. W. HURST.

THIS should not be an arbitrary performance, but a process, although more mechanical in the case of the old stock, on account of the age limits, than relative to the possibilities of the young. We know, or should know, the laying capability of the hens—either accurately by means of the trap-nest or approximately from observation—and we know, or should know, when they came into profit and when their profitable production may be expected to cease. We can judge the quality of the breeding stock by the stamina of the progeny and the general fitness for given purposes; and we know that this rooster is vigorous, whilst that one is constitutionally or otherwise unfit—if we have learnt anything from the hatching percentages of the season. The selection and rejection of the adult stock must therefore, in the several

departments of production, not only be relative to age, but to the general or particular utility of the individual birds that have not reached the limit. The reservation of a fowl for future stock purposes should be subject to the evidence of its season's record, irrespective of the age limit—although the latter factor must in every case receive due consideration, and in some circumstances of production it is the only practicable guide to a course of general action involving some loss as well as gain.

The breaking-up of breeding-pens and the releasing of hens from rearing duties are among the occasions when questions of selection and rejection, in so far as they concern such stock, should receive that particular attention which is the culmination of a gradual process of observation and record; and June offers favourable opportunities for the disposal not only of the rejected and surplus birds of the young generation, but also for the elders that have gone out of profit—when in suitable condition and before the commencement of the moult. From the marketing point of view it is desirable to clear out the birds of this description directly they become profitless (in the manner indicated), and have recovered any loss of condition—which is important in the live poultry markets—rather than to risk a subsequent participation in the conditions consequent upon a period of general "weeding out," when the supply is annually out of proportion to a profitable demand.

In addition to such operations, which are more or less automatic details of management, the selection and rejection of the growing stock demands attention—backed by discernment in addition to any possible knowledge of the ordinary course of breeding of any given stock. There may be a reasonable average expectation regarding the character of the young stock, but it is in every case subject to individual qualifications and limitations, the more or less accurate detection of which depend upon that habit of constant observation implied in the process—or gradual progress—of efficient selection and rejection. As there are lessons of the hatching season, so also there is much knowledge to be acquired from the rearing results. Are the chicks large or small of their kind? Are they sturdy and upstanding or weakly and uncertain? Are they contented or complaining? These are among the questions of the hatching season, but the growth and development are relative to the subsequent rearing period, although breeding, incubation, and rearing are but divisions of one process, and to that extent inseparable for all practical purposes.

Relative to laying stock, provided the youngsters are constitutionally fit, and that growth and development have been normal for the purpose, the question of selection and rejection depends finally upon the family records in the matter of production. The preservation of stamina is essential to the permanence of a strain, and if the progeny of the best layers are wanting in this particular they must be rejected in favour of the next best, selecting those in which the highest record is combined with a sound constitution. Such a levelling up of the productive record of a flock may be less swift, but it

is more certain in regard to perpetuity than the modern tendency to gamble in record-breaking.

The selection of stock for breeding table birds and for the more general purposes of the average producer depends much more fully upon the indications of external appearance as regards size and shape, in addition to the observed rate of growth and development, which are all matters for very particular present attention. Legitimate size is relative, and must be considered with due regard to the object of production and the type of fowl used for the purpose. That which would be out of the question for the egg-producer may be looked for in selection for table and general purpose breeding, remembering, however, the influence of excessive growth upon reproduction.

Any preliminary selection of growing stock must necessarily be rather wide, allowing a sufficient margin for the unexpected in the subsequent development, otherwise the material for the eventual final selection for the renewal of the breeding stock will be insufficient for the maintenance of a high level of excellence. The most experienced are sometimes at fault, so that it is necessary to insist upon the folly of a too early or too close final selection and rejection; but, on the other hand, as no written instructions will adequately teach the inexperienced, the requisite knowledge must be acquired by constant observation. The rejection of absolute wasters at a suitably early period is after all a comparatively simple matter, and in the subsequent selection for the ultimate object the ideal must be always kept in mind—each individual being separately chosen with direct reference to the particular object to be attained.

SUSSEX POULTRY - - ASSOCIATION. - - -

*To the Editor of the ILLUSTRATED
POULTRY RECORD.*

SIR,—A public meeting was held at Uckfield on Wednesday, June 9, to further the objects of the above Association, at which it was announced that since the revised rates for the carriage of live poultry, for consumption, by passenger train, were granted in January last by the London and North-Western Railway Company from Baltinglass and Kilkenny to Heathfield, Rotherfield, Mayfield, Waldron, Hellingly, Hailsham, Uckfield, and Buxted, they have been extended both by the London and North-Western Railway Company and the Great Western Railway Company (via Fishguard and Rosslare) to the carriage of live poultry from Carrick-on-Suir, Abbeyleix, Naas, and Carlow, to the same places, and also granted by both companies from

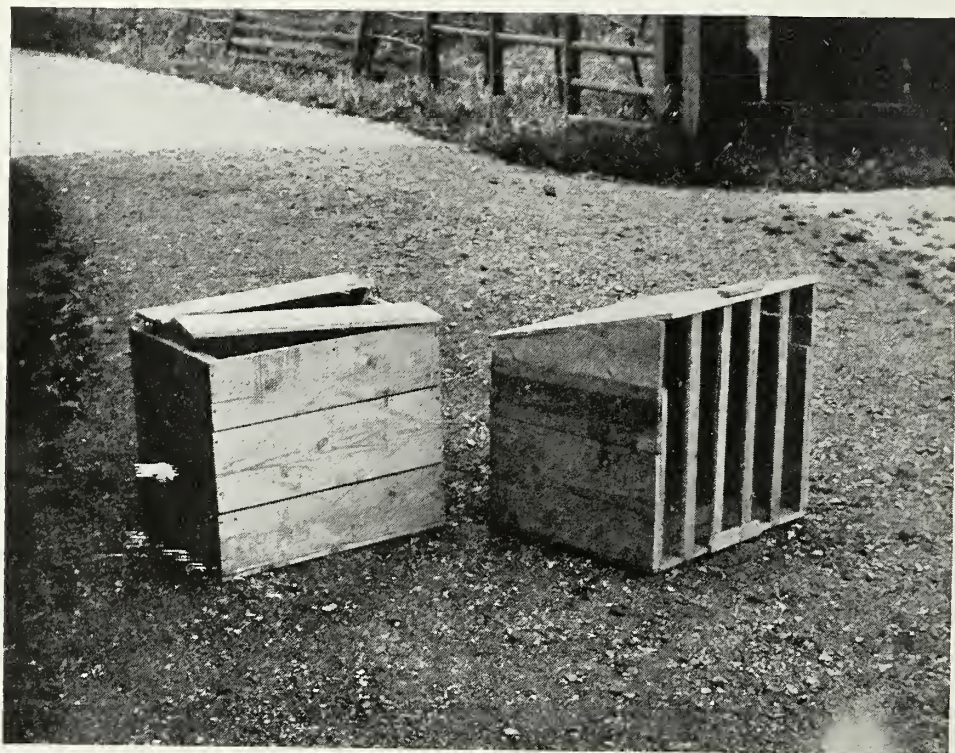
Maryborough to Uckfield and from Abbeyleix to Crawley and Ashford, and by the London and North-Western Railway Company from Hill of Down to Heathfield, and by the Great Western Railway Company from Clonmel, Ballyragget, and Tullow to Uckfield, and from Abbeyleix to Crawley. The rate now charged is 6s. 9d. per cwt. at owner's risk, and 8s. 9d. per cwt. at company's risk, with a minimum charge as for one cwt. The London and North-Western Railway have also introduced a rate of 7s. o.r. and 8s. 9d. c.r. between Abbeyleix and West Hoathly.—Yours, &c.,

EDWIN F. YOUNG.

AN INEXPENSIVE COOP.

A TATE sugar-box, a few nails, and an hour's work will give a handy, serviceable coop, which may be used as a sitting-box also. The first will cost fourpence, the second one halfpenny, and the last—a pleasurable time of recreation.

To make, the lid must be taken off and the nails removed, when they can be straightened and used again, thus saving the halfpenny. One side will form the floor and the other should be carefully taken off. Two of the lid strips must be cut as a long half-triangle, 3in. at



THE FOURPENCE-HALFPENNY COOP.

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the front down to 1in. at the back, and fastened on the open side with four strips within so as to hold them firm. The laths taken from the side must now be nailed on the sloping pieces, and with a strip from the lid will make a top, having the requisite incline to carry off the rain. There will just be enough remaining of the lid to cut into bars for the front, and when fixed with two loose ones for letting the hen in and out the coop will be complete.

RUNNING CHICKENS.

By "EAST SUSSEX."

SOME of the methods of those who rear chickens for the fatteners in Sussex and Kent are worthy of adoption in other parts of the country. The bulk of these chickens are reared, of course, during the summer months, for although every endeavour is made to get early broods, it is during the warmer period of the year that birds can be reared with least difficulty and expense. Chickens are required by the fatteners for cramming when they reach the age of three to five months, and those, therefore, that are hatched from the end of March onwards are what the rearer calls "summer chicken." Prices are naturally lower during summer and early autumn than at other times, partly because there is less demand for fat poultry after the London season expires, and partly because the rearer can afford to take less money for birds that have cost him less in time and trouble to produce. The beginning of the game season in August also has some effect on poultry prices, although since grouse and partridges do not always appear upon the market in large numbers, the depression caused by the game supply is not so great in some seasons as in others. Pheasants are always more or less plentiful, and the chicken-rearer, as well as the fatterer, looks forward to November, when they are to be had in greatest quantity, with feelings of disgust. Anything, therefore, which the rearer can do to bring forward his stock of running chickens so that he may get rid of the bulk of them before the approach of the pheasant season makes itself felt is of great importance, and the advent of cold, wet weather in the autumn is another inducement to him to clear his stock as soon as possible after the summer is over.

The title of "running chickens" (the "s" is dropped as a rule) is given in Kent and Sussex to all birds being reared for the fatterer after the time when they leave the hen or foster-mother—say, at the age of a month to six weeks. When they reach that period of their career they go out into the meadows or on to waste ground by the wayside in "arks"—wooden houses on legs, made in the shape of the popular conception of a Noah's Ark, but with boarded or battened floors raised a foot or so off the ground. Some fifty or sixty birds are generally placed together in an ark, and the houses are stood well apart so that the chickens shall keep to their own particular home. The critical stage in the lives of the birds may now be said to be practically over, and losses are comparatively few when once they are transferred to the arks. Overcrowding is the chief danger that has to be guarded against, and as the birds grow it is best to divide them into smaller lots—say, thirty to forty—or else during the hot nights of summer there is a risk of smothering the weaker ones. Efficient ventilation, provided by a small unboarded space at each end of the house in the apex of the roof under the eaves, is essential.

Now, it has often been noticed that running chickens come to a standstill during the summer if kept too long

in the meadows, especially in dry, hot weather. The ground becomes stale if there are many birds upon it, and insect food, which grows more scarce as the ground gets drier, becomes practically exhausted. Birds reared by the wayside, especially in shady lanes, thrive better at such times than those in parched meadows, the shade provided by the hedges and the extra amount of natural food found in moist ditches being of immense advantage to growing birds. Acting on this principle, the farmer and cottager in Kent and Sussex move their running chickens, as summer advances, into the woods or "shaws" (spinneys) whenever they have the opportunity of so doing, and it has been proved over and over again that the plan has a most beneficial effect on the birds. Apart from the change of ground, the different conditions of existence afforded by life in the woods give the birds just that fillip of which they are so much in need during hot weather. Wherever they go in covert, they can find something to eat in the way of insect food, and even when they are not hungry they are kept occupied in scratching or dusting instead of moping about in the scorching sun or huddling together for shade behind the arks. Grit, too, which is so essential to the well-being of fowls, old or young, can always be obtained in the loose soil of the woods. If the birds need sunshine, they can find it in the open spaces of the wood or by coming outside, and it is preferable that the arks should be placed just outside the wood, moving them along a few yards once or twice a week. Under this method the birds get constant change and explore each part of the wood in turn. One of the advantages of placing the arks outside the wood instead of within it is that the manurial value of running chickens is considerable, and the land ought to get the benefit of this. Inside the wood this would be wasted.

The question of vermin must also be considered, and foxes, stoats, weasels, and rats are more likely to be troublesome within the wood than outside it. It is a good plan to have the arks boarded right down to the ground on three sides, while the fourth side may be blocked at night with a board to keep any large vermin from getting in underneath. Foxes and cats will sometimes get underneath an ark with a barred floor and pull the unfortunate chicks through the bars by the legs piecemeal. Smaller vermin will not be able to get in at night after the house is closed, but a few traps set in drain-pipes or in covered "runs," as the gamekeeper sets them will be some safeguard against possible depredations in the wood by day. Chickens running in woods ought to be fed in the meadow outside. Food always attracts rats, and if there are any about, one or two covered traps, or a wire cage, ought to be set at night where the feed is given. It will be found that running chickens which have access to woods, as here described, grow much more rapidly than those which have no such opportunity, while the amount of food they require is less, and they are fit for the fatterer much sooner.

After the harvest is cleared from the fields, a great saving can be effected by putting running chickens on the stubbles, where they will clear up all the fallen grain

that would otherwise be wasted. This practice is not nearly so generally followed as it ought to be, although the custom is more or less general in Eastern Sussex. That part of the county, however, does not produce much corn nowadays, but there are many places where corn is a staple crop, and where what is now wasted might be turned to good advantage. No doubt there are many farmers in various parts of Great Britain who, if approached in the right way, would have no objection to other people's fowls feeding on their stubbles for a month or two after harvest. The birds would do the land good, and, besides clearing up the useless corn, would consume the seed and destroy the plant of many kinds of weeds. Farmers, generally speaking, are not extensive chicken-rearers, many of them keeping nothing but a few fowls for laying, whose existence is spent about the stackyards. They might with advantage turn their attention more closely to the rearing of summer chickens, half of whose living could be picked up on the stubbles; and if the farmer himself does not care to go to this trouble, it would certainly be no loss to him, but a gain, to allow cottagers and others to do it. There are hundreds of acres of waste scrub and woodland in this country—distributed in odd corners on the farms—that produce little or nothing, and it is in such places that running chickens could be kept during the first part of the summer without doing harm to anyone, and be ready to go on to the stubbles as soon as the land was free. This would bring them into prime condition for the higgler, and by the end of September they would be cleared out in time to fatten and market before the November glut of pheasants came in view.

LAYING TESTS.

To the Editor of the ILLUSTRATED POULTRY RECORD.

SIR,—I would like to point out to Mr. B. W. Horne, in reference to his letter on the above subject in your issue for June, that I never intended that a laying test such as I advocate should be conducted "to prove strains." The laying competitions do that. What I want to see is a laying test, or demonstration, that will prove the practicability of egg-production on the colony system, which is, I believe, the only one for the large egg-producer for market to run at a profit. This I clearly pointed out in my article.

Mr. Horne says that "some guarantee would have to be forthcoming that the test is faithfully conducted." But why should the integrity of a manager of a field test be thus doubted while he of a laying competition is allowed to pass as being beyond suspicion? The trap-nest is no security against dishonesty. Surely the same reliance can be placed on the one manager as on the

other. As regards the weighing of the eggs, I think that the amount of fuss and work spent over this is out of proportion to the importance which is attached to the subject by the market; and while I have no doubt that the weight of eggs affected the places of the competitors in the recent competition, would the value of those eggs—say, from the first and tenth pen respectively—be so very different in the market? I imagine that careful grading would serve the purpose equally well.

We are asked, "What is the use of having five birds of an excellent strain if the sixth bird is a bad layer—as proved by the trap-nest?" None in the least if you are breeding competition strains, but I will answer the question further in the Irishman's way—i.e., by asking another: "What is the good of having a pen of birds that lay a lot of eggs but which do not pay—except as an advertisement or as producers of "sittings"? That is the way in which nine-tenths of our market egg-producers would view the subject.

Mr. Horne, in referring to my very briefly outlined scheme of a laying test, says that such a demonstration could not be "very convincing to the general body of farmers," but I beg to suggest that it would be infinitely more encouraging and convincing to such people than the present system of laying competitions could ever be; and I repeat what I stated in my article, that I do not ask that the U.P.C. competitions should be abandoned for my own or any other plan, so long as they are not intended as object-lessons for farmers. They serve their purpose, and the system I have sketched, if properly developed, would serve another. In conclusion, I must thank Mr. Horne for the courteous way in which he has replied to my suggestions—an example which might be followed by others who do not happen to share my views. Still, I think Mr. Horne cannot have grasped my argument thoroughly, as outlined in the first paragraph of my article, or he would have left a good deal of his letter unwritten.—Yours, &c.,

A. T. JOHNSON.

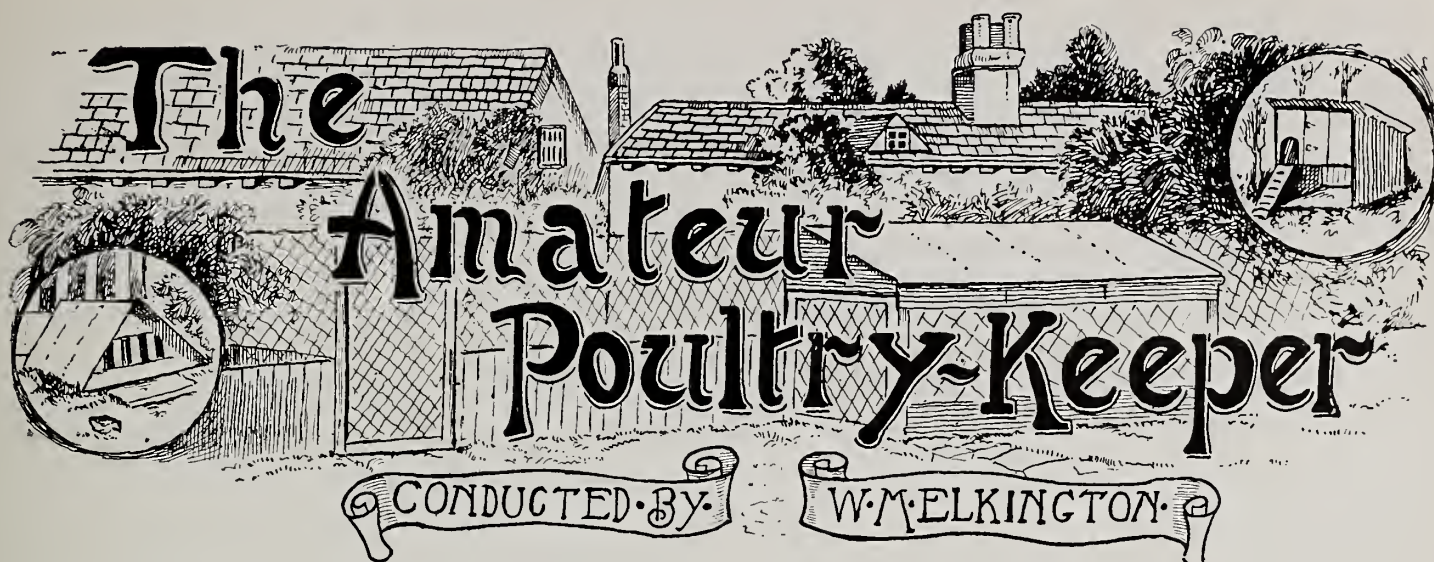
STREET LAYING COMPETITION.

To the Editor of the ILLUSTRATED POULTRY RECORD.

SIR,—I notice in your May issue (p. 492) a query as to how hatchlings from the Street Laying Competition pens have turned out.

I put down 12 eggs from the winning pen (79 Buff Rocks) and hatched all 12 on March 20 (two of the eggs had falls and had to be plastered up), and the 12 are now as vigorous as it is possible for chickens to be.—Yours, &c.,

SIDNEY H. SNELL, M.D.



What Should a Poultry-Keeper Know?

I was reading the other day that it was quite impossible to make profit out of poultry until one has acquired a thorough knowledge of the subject, and that for the first year or two one must be prepared to buy experience at considerable cost. Had the writer been referring to poultry-farming on an extensive scale the remarks would have been more or less correct; but he was writing primarily for amateurs, and I cannot help thinking that such a pessimistic view would hinder many people from taking up poultry-keeping. It is perfectly true that experience is necessary to get the best results from poultry; but it by no means follows that a person entirely lacking in experience cannot commence in a small way, and by following such advice as he may find in these columns, acquire practical knowledge without necessarily keeping his fowls at a loss. It was interesting to note from the essays sent in for our Prize Competition that many amateurs have started with little or no knowledge of the subject, but that by means of expert guidance they have been led to discover the best ways of managing their fowls. The most important things for an amateur to know are that (1) there is very great variation in the productiveness of strains, and that it is necessary to keep birds of prolific strains, (2) the health and condition of laying hens in small runs can only be maintained by very careful feeding and by constant scratching exercise, and (3) the secret of success in commercial poultry-keeping is economic production.

Details of Management.

There are many details of management that have to be gradually learned, and these enforce their importance upon the beginner as he makes progress. Cleanliness is one of the first items that appeal to an amateur, and it is seldom that one makes a mistake in this respect. Overcrowding is a more frequent cause of failure, for most people who find that half a dozen hens are paying them well will want to double the number, which may be too much for the accommodation. But so far as laying-hens are concerned, feeding is the chief stumbling-

block. It is difficult to convince a beginner that one cannot feed poultry by rule of three, that the quantity given must depend upon the condition and productiveness of the birds, the season of the year, &c., and that it is not good for fowls to allow them to eat as much as they can. With regard to materials, some amateurs complain that they are bewildered by the contradictory advice of experts. The advice, however, is not so much contradictory as varied. Nearly every practical breeder has his own particular way of feeding, and recommends it to others, and if the amateur tries one or two plans he will soon see which suits him best. Nevertheless, I am of opinion that the simpler the method the more likely it is to prove satisfactory in such a case as this.

Encouragement for Cottagers.

If only the cottagers in town and country could be encouraged to keep a few fowls for egg-production, many pounds would be put into their pockets, and a great number of people believe that there is more chance of reducing the national bill for foreign eggs in this way than by the establishment of large poultry-farms. I recently came across a village where, through the influence of a well-known breeder, practically every cottager has his small pen of laying-hens, and I am told there is not a man or woman in the place but can show a substantial profit on their enterprise. In the first instance, the breeder referred to supplied each cottager with sittings of eggs, all of White Leghorns, and gave them a good send-off with some sound advice, and he estimates that the people between them make over £100 a year profit from their fowls. If those who possess influence in country places would use it in a similar way they could do an immense amount of good. The English cottager is a conservative individual, but open to conviction when you put a good thing in his way, and a little practical encouragement such as that mentioned above would go a long way with him.

Changing the Stock.

An important problem that confronts the small poultry-keeper at this season of the year concerns the

renewal of the stock. I am writing more particularly for those who keep a few hens for egg-production alone and never breed any chickens, so that the stock has to be renewed every year or every other year. It is a fact, of course, that a hen lays more eggs in her first season than in any other, and on the strength of this principle a good many successful amateurs make a point of changing their stock every year, killing off or selling the hens before they moult in the summer, and buying pullets in September or October. Naturally, there is a considerable margin between the buying price of pullets and the selling price of hens, but those who force hens for egg-production find it politic to get rid of them after one season.

Young Hens for Winter Laying.

Personally, I prefer this plan, because one can generally get more eggs from pullets (provided they are early, well-developed birds) than from hens that have been laying hard in a small run for one season. And, after all, it is the winter egg that pays. If we could depend upon hens commencing to moult early in August and beginning to lay again by the first week of November, I should be quite satisfied in keeping them on for a second season. But very few will do this after a trying season in confinement, and as a general rule the hens are dragging on through the moult and recovering from it when pullets would be laying eggs worth twopence each. Those who keep layers on for two seasons would do well to change half the stock each year, so that in every winter they will have some pullets for early laying. They can then compare the young birds with the old ones for profitable production.

THE AMATEUR'S GUIDE FOR JULY.

IN this glorious summer month a good deal of heat is generally experienced, and the sleeping quarters of poultry must therefore be well ventilated. Fowls would keep in better health and condition if they were allowed to sleep in open sheds all the summer, with nothing but a roof above them. This, however, is not always convenient, and the best alternative is to have houses in which sliding shutters may be let down, so that the front is practically open. By keeping birds in such houses it is possible to harden them so that they become practically immune from colds.

Shade is another necessity, and those who make small permanent poultry-runs in the garden or elsewhere would do well to plant some young fruit-trees, for the sake of the shade as well as the fruit. But for those who require a quick-growing annual plant I can recommend the tall sunflower. If a strip of ground is dug and manured all round the east, south, and west sides of the run just outside the wire netting, the plants can be put in 18in. apart, and in a short time they will form a dense, tall hedge, and provide splendid shade all day. Sunflowers, however, form a double purpose, for when the seeds are ripe the heads should be cut off. The fowls will peck out the seeds, or they can be threshed

out by beating the heads on the ground. Sunflower seed is of an oily character, and very useful for growing feather, but should be used sparingly.

Thanks to the long days and plenty of flies and other insects, chickens should be making good growth. Care must still be taken, however, to keep them free from vermin, and the precautions recommended last month must still be followed. It often happens that chickens stop growing just about this time, and the cause may usually be attributed either to insect pests or overcrowding. The latter is a frequent cause of failure. Keep reducing the stock as the birds grow or they will be spoiling one another's chances. Broad flat perches may be put in the houses for well-developed chickens over four months old, and it should be seen that the birds roost upon them every night, or those which remain upon the floor will be fouled by those above. Keep all perches on the same level, or the birds will crowd on to the top ones.

If any old birds are moulting, as they soon will do, it will be a good plan to put them into a well-lighted out-house, so that they can be fed generously by themselves. The growth of new feathers is a severe strain upon a bird, and it should have three good nourishing feeds a day, with scraps of meat and vegetables, and about an eighth part of hemp seed with the hard corn. A good tonic for moulting hens is known as Douglas mixture, the recipe for which is 1oz. of diluted sulphuric acid and $\frac{1}{2}$ lb. of sulphate of iron dissolved together, to which is added two gallons of spring water. This mixture should be given in the drinking water in the proportion of a teaspoonful to every pint of water, and it will be found an excellent pick-me-up for birds that get very low in condition.

There should be a considerable saving in the food supply at this time of year, and those who are fortunate enough to be able to turn their fowls out for a run can keep them at very little cost. Many amateurs in country places can turn their birds on to a field, or even the roadside, and they will find that a few hours of liberty each day will do a great amount of good, besides effecting a saving in corn. Even in small, confined runs fowls do not require nearly so much food now as they did in the early spring, and of what they have a large proportion should consist of vegetables. Poultry-keepers can utilise a lot of waste garden produce for their fowls, and lettuce and cabbage leaves, onion tops, and even pea and broad bean pods are very welcome. The latter are more readily eaten when boiled soft. Even the humble stinging nettle makes an appetising dish for mixing with scraps and soft food when it is boiled. The evening meal of hard corn must not, however, be forgotten. Oats are the best grains for this season, as wheat is too dear and barley and maize too heating.

This is the best time of year to get rid of old hens in view of a fresh stock of young birds being purchased in the early autumn. Moulting will be general very shortly, and if hens are allowed to fall into moult it will be practically impossible to sell them until they are through it, by which time they will have cost nearly a shilling each to keep.

AMATEUR PRIZE COMPETITION.

THE WINNING ESSAYS.

AN AMATEUR'S EXPERIENCE IN POULTRY-KEEPING DURING 1908.

By MISS M. E. MACQUEEN.

IN the following account of my poultry-keeping experiences for 1908 I hope to be able to show that poultry, kept on a small scale, can be made not only to pay their way but to be kept at a profit, and to refute the accusation which has been made against them that hens always die in debt.

In 1906 I took over the management of the household poultry at my home, feeling sure I could improve the state of matters in the hen-run. I soon saw that there were many cumberers of the ground—hens, some of which were too old too lay, some too lazy, all of them bred haphazard from parents whose laying qualities were unknown quantities.

This state of affairs had to be changed, numbers must be reduced, and a fresh start made. I, therefore, hardened my heart, and ordered a wholesale slaughter to take place. This done, I turned my attention to the question of adapting the house to modern requirements. Fortunately, it was a wooden structure, and there was no difficulty in making an open front fitted with sliding shutters. By means of these it can be converted into a scratching-shed in stormy weather—the floor being littered to the depth of several inches with peat moss or sawdust, and, as the perches are fitted with dropping-boards, the moss litter is always clean, and just requires to be raked over to bury the grain for the fowls to scratch in.

The house measures 5ft. 6in. by 6ft. It has a sloping roof about 6ft. at the highest point. There are the necessary number of nest-boxes, which can be opened from without to collect the eggs. A dust bath occupies one corner. The house is surrounded by a wired-in run, and outside of this the fowls have a free range. Early in March, 1907, I got from the College Poultry Farm, Theale, a dozen day-old White Wyandotte chickens. In addition to these I set a dozen of eggs of the same breed, my intention being to start with a pen of nine or ten pullets and a cock. The chicks were fine, strong birds, and grew quickly. I killed off or sold the surplus cockerels, kept one as a reserve, and purchased a two-year-old cock to mate with the pullets. In October I mated up the pen of nine pullets and one cockerel, and by the end of November two of the pullets were laying. I always fed and attended to them myself; collected and tallied the eggs every day. The spring of 1908 was fine, so the fowls could have plenty of exercise out of doors, which

greatly helped the egg-production. By the middle of December another pullet started to lay, and by the end of the month I was setting five or six eggs a day, so that as nearly as I could judge (not having trap-nests) all the pullets were laying.

On November 1 I weighed out the food for the month, calculating as nearly as possible what would be required. As it turned out, my estimate of the food required was pretty correct. It consisted of a mixture of maize meal, white sharps, hashed barley, and ground oats, with a little bran, a certain proportion of house scraps, whole oats as a grain, and, in addition, green-cut bone, shot cabbage, and other waste vegetables from the garden, oyster shell, flint, and chopped china for grit.

Food account for January, 1908	£0 3 8½
Value of eggs, 11 doz. 3 eggs at 2s., 1s. 9d.	1 1 11½

To the February bill of fare I added malt culms instead of maize meal and substituted barley for oats as the grain used. For the value of house scraps I make no allowance, as in every house there are scraps that must be disposed of somehow.

Food account for February	£0 3 2½
Value of eggs, 11 doz. 5 eggs at 3s., 1s. 1d.	0 17 10¾

During February I set two hens to ascertain how the eggs were hatching. Out of eighteen eggs I got twelve nice strong chicks, only one of which I lost.

March food, the same mixture as the previous month, with oats as the grain.

Food account for March	£0 3 2½
Value of eggs, 11 doz. 4 eggs at 5s., 1s. 1d.	1 9 4½

This month I had several orders for eggs for sittings, for which I charged from 5s. to 3s. per doz.

Food for April, same mixture as for March, and this month seven of the pullets became broody. This I checked at once, as I had decided not to allow any of the hens to sit the first year, so that I might test to the utmost their laying powers. To the April mixture I added barley meal as a variety.

Food account for April	£0 3 1¾
Value of eggs, 14 doz. eggs at 5s., 11d.	1 15 5

By the end of April I had from sixty to seventy chickens from the eggs of the nine pullets. The eggs hatched well, and the chicks were strong, lively birds, and grew quickly. From these birds I made up my stock of 1909.

During May I waged constant war on broody hens. Owing to broodiness there was a considerable decrease in the eggs for the month. Now that the weather had become warmer and the hens had their freedom they were able to forage a good deal of food for themselves,

so I put them on a rather lighter diet—i.e., ground oats, sharps, mealy sids, with oats as grain.

Food account for May	£0	1	8 $\frac{3}{4}$
Value of eggs, 11 doz. eggs at 3s. 6d., 11d..	1	6	6

In June the laying improved somewhat. The hens were not so broody, but towards the end of the month two showed signs of beginning to moult; the cock also began to cast his feathers.

Food for June the same as previous month.

Food account for June	£0	1	9
Value of eggs, 13 doz. eggs at 11d.	0	11	11

By the end of July I had four moulting hens, so I gave a more nourishing diet, to which I added a teaspoonful of powdered sulphur three times a week and a little iron tonic in the drinking water.

Food account for July	£0	2	4 $\frac{1}{2}$
Value of eggs, 4 doz. eggs at 1s.	0	4	0

In August two more hens began to moult. By this time the first lot were getting on their feathers quickly, and stood the strain well.

For August I continued the same diet as for July, but a little more generous.

Food account for August	£0	3	4
Value of eggs, 1 $\frac{1}{2}$ doz. eggs at 1s. 2d.	0	1	9

September is perhaps the most depressing month in the year for utility poultry-keepers. Eggs are few and far between. The hens are still moulting, and the pullets, unless very early hatched, have not begun to lay.

In September it was impossible to make ends meet. The remaining hen struggled manfully on, but, after laying nine eggs, began her moult.

Food for September	£0	3	4 $\frac{1}{2}$
Value of eggs, 9 eggs at 1s. 4d. doz.	0	1	0

In October, to my great joy, a barley field close at hand was taken in, and I had a portable hutch placed in the stubble field, to which I moved the fowls. Here they foraged for all the food they required, and I gave them fresh water and grit every day. About the middle of the month two hens, having got over the moult, began to lay. These were the first eggs I had seen for several weeks, and they were a cheering sight.

Food for October	£0	0	10
8 eggs at 1s. 6d.	0	1	0

The beginning of November I moved the fowls back to their winter quarters. By this time four hens were laying again. I fed this month on the following mixture: maize meal, white sharps, hashed barley and ground oats, green-cut bone, vegetables, and house scraps.

Food bill for November	£0	3	4
3 doz. 6 eggs at 2s.	0	7	0

December, same bill of fare as last month, and by the end of the month most of the hens were again laying.

Food bill.....	£0	3	2 $\frac{1}{2}$
Value of eggs, 9 doz. eggs at 2s.	0	18	0
Expenditure for food from January 1, 1908, to December 31, 1908	1	13	2 $\frac{1}{2}$
Value of eggs from January 1, 1908, to December 31, 1908	8	17	2 $\frac{3}{4}$

Leaving a net profit of.....	£7	4	0 $\frac{1}{4}$
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SEVEN MONTHS' POULTRY-KEEPING.

By MRS. FEAR.

UNTIL May, 1908, I had absolutely no thought, and as little knowledge, of poultry-keeping. At that time my husband, having taken a piece of ground for a garden, suggested that I might, if I liked, keep a few fowls.

The idea of throwing down corn to birds and picking up eggs seemed to me delightful, so, of course, I agreed. Like most novices, I suppose, we first got the birds and then began to learn how to keep them.

From a guileless countryman we obtained six Gold-laced and two White Wyandottes, all guaranteed to have been hatched the previous July; he also sold us a house for them, 4ft. square and 3ft. high, which he assured us was quite large enough.

I thought I had a first-class start, and appreciated my new-laid eggs; but, alas! my satisfaction was short-lived, for I began to read poultry papers, and soon discovered that there were a few alterations to be made. I also came to the conclusion that my Wyandottes were a very mixed lot, which the man was probably very glad to get rid of just then, one in particular being a very ancient dame and another very small and ailing. Still, I did my best with them, and their performances might have been worse.

I soon discarded "mixed corn," and tried to give them suitable rations. This is no easy matter to a novice, as poultry writers give very contradictory advice on the subject, and until some experience is gained it is very confusing.

During the summer my husband built a poultry-house, of which we are very proud, as he is not a carpenter, but a clerk. The house is 15ft. by 6ft. and the height is 7ft., sloping back to 5ft.; one end is partitioned off, giving a roosting-house 5ft. by 6ft. Besides giving the extra air space, I find the height very convenient for the daily cleaning up, which is a very simple matter when there is plenty of space. The floor of the scratching-shed is covered to the depth of about 8in. with peat dust, into which all grain is well raked, as this keeps the hens searching longer for their food. In their spare time they use the peat for dust baths. Except for 2ft. boarded up at the bottom, the entire front of the shed is of wire netting, with four removable glass windows; the birds are confined to this house during wet or muddy weather, and seem to be quite contented. There are also four open runs about 38ft. by 27ft.; two of these are planted with fruit-trees and the others are to be used for vegetables when unoccupied.

In September we bought from a well-known breeder six White Wyandotte pullets, March hatched, and have never regretted the purchase. I am very proud of my big beauties, and it is a real pleasure to have birds so tame that they will let me pick them up without the least protest. They were kept with the hens till January, when we made a separate breeding-pen, but that is another story.

During the winter I have never let any weather interfere with my regular attention to the fowls, although they are kept five minutes' walk from my house. I have been out in drenching rain and deep snow, and the gain in my health has been great ; so I really ought to put down a saving in doctors' bills to the credit of my poultry.

The birds kept in good health, and my results were as follow :

The pullets started laying in December.

June.....	97 eggs	October	68 eggs
July	91 ..	November	58 ..
August.....	31 ..	December	120 ..
September	92 ..		

Value of eggs, £3 5s.

Cost of food, &c., £2 13s.

This leaves 12s. for depreciation, &c., which perhaps is not very good ; but as it was only on the first seven months' working I am satisfied.

THE BEST BREEDS FOR AMATEURS.

By W. M. ELKINGTON.

IT has always been a difficult matter to convince a beginner that strain is of even more importance than breed. Yet this is one of the first lessons that should be learned by the aspiring poultry-keeper, for though he may be advised to select one particular variety, he will find in the course of time that every bird which passes by the name of that variety is not necessarily of a high standard of usefulness. In the old days, before there were so many books and papers catering for poultry-keepers, most people regarded a fowl as a fowl, and never imagined that one might be better than another. As a matter of fact, it is only within recent years that specialist breeding for egg-production, and, in fact, for all useful purposes, has raised the standard of some strains far above those of others, and at the present time it is far more important to select a suitable strain than a suitable breed.

To take a case in point. Two neighbouring poultry-keepers may be recommended to take up a certain breed, say, White Wyandottes. Knowing nothing whatever about the matter, they imagine that one White Wyandotte will do just as well as another, but by accident they go to different breeders, and one secures stock from a carefully cultivated laying strain, whilst the other's birds are descended from stock of no particular merit, that have never been subjected to the process of weeding and selection, by which inferior layers are thrown out and the utility value of the strain improved. The result is that one man may get nearly twice as many

eggs as the other, and as they feed and manage their birds in much the same way the unfortunate one naturally wonders why his White Wyandottes do not lay as well as those of his neighbour. He may put it down to bad luck, but whoever reads this and experiences similar poor results may rest assured that there is no question of luck about it, but that it is simply due to neglecting the all-important matter of strain.

Having learned this lesson thoroughly, the amateur may pass on to consideration of the most likely breeds for his purpose, and in discussing this matter we must, of course, be guided largely by the conditions under which the fowls are to be kept. A breed that would be excellent for a large and somewhat exposed grass run might be wholly unsuitable for a little back-yard pen, and *vice versa*. Moreover, we must consider whether the object is egg-production, or table chickens, or both.

Let us, first of all, then, take the case of the amateur who can accommodate fowls in an orchard or paddock, and desires good all-round birds that will lay eggs at all seasons and produce some good table chickens for home consumption. For this particular purpose there is nothing to beat the White Wyandotte. Given a well-bred strain, it is one of the most prolific layers ; the eggs are generally of good marketable size, the chickens are hardy, grow well, and, though they have yellow legs, the skin and flesh is of such good colour that they will pass muster as first-class table birds in most markets. For flavour and juiciness, a White Wyandotte is hard to



AN AMATEUR'S WYANDOTTES.

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beat, and the birds, moreover, are beautiful and pleasing to the eye when kept on a good-sized grass run. Then there is the Faverolles, a better table bird from a connoisseur's point of view, a remarkably quick grower, and only slightly inferior to the Wyandotte as a layer.

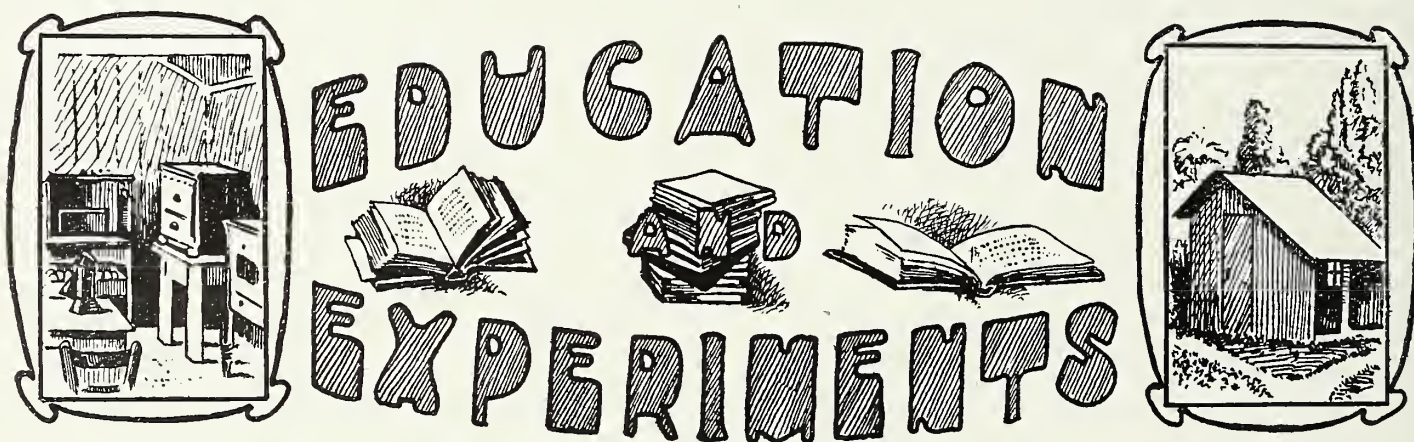
The Sussex and the White Orpington may be classed in the same category, and these are all varieties that sit in moderation, being decidedly useful in that respect without becoming a nuisance.

Supposing, however, that an amateur requires some specially hardy general purpose stock for an exposed grass run, with a particular view to winter laying. In this case it would be advisable to make a choice between Buff Plymouth Rocks, Partridge Wyandottes, and Buff Orpingtons. These are, perhaps, the three hardiest varieties we have, and birds of good strain can be relied upon to lay where many other breeds would fail. The Buff Orpingtons make the best table birds when fully grown, and their leg colour naturally gives them an advantage.

In another case we may assume that a good-sized

grass run is to be stocked with fowls from whom a constant supply of eggs is required, without consideration for table properties. For this particular purpose there are three breeds—White and Black Leghorns and Anconas—that may reasonably be regarded as the most productive of domestic poultry, so generous a return do they give for the food they consume. Leghorns were not generally regarded as hardy until some of the American laying strains were imported into this country, but there can be no doubt that White and Black Leghorns and Anconas are equal to many of the larger breeds in this respect, and though their eggs are white they are laid in such numbers that the birds are highly profitable. With these breeds, however, more perhaps than with others, it is necessary to discriminate between strains.

(To be continued.)



Fertility of Cold-Stored Eggs.

An experiment has recently been carried out in Dunedin (New Zealand) as to whether eggs that have been kept in a cold store for some time will hatch, and the results are interesting. A number of eggs were taken, according to the Annual Report of the Department of Agriculture for 1908, and placed in a cold store at an average temperature of 34deg. Fah. The minimum temperature recorded was 32deg. Fah., and the maximum 36deg. Fah. At the end of three months the eggs were removed, allowed forty-eight hours in which to gain their normal temperature, and then set under hens. On the seventh day there was practically no change in them, and on the twenty-first, when re-tested, it was found that some were the same as when taken out of the cool chamber, others had a largely increased air-space, and a large number were filled with a black liquid and were in a bad state of decomposition.

White Diarrhoea in Chickens.

Dr. Higgins, Pathologist to the Department of Agriculture, has used material from three outbreaks, which led to his forming certain opinions as to the cause of ailment in these cases. One early determination was that the ailment was not infectious, at any rate in one

case, where chickens were placed in a brooder containing a large number of chickens affected with the disease. No effort was made to disinfect, nor were any precautions taken to eliminate the disease from the brooder in question, had the affection been due to a specific infectious agent. Another conclusion arrived at, after careful investigation, is that the White Diarrhoea with which we are familiar, is due, not to an infective agent but to a defective anatomical development prior to the emerging of the chick from the shell. Dr. Higgins is, however, unable to offer an opinion as to the exact cause of this defective anatomical development, but it is a fact that the chickens which he has examined, dead of the so-called White Diarrhoea, have only a partial absorption of the yolk-sac.

THE MAINE TRAP-NEST.

WE print the following description of the Maine Trap-Nest from Bulletin No. 159 of the Maine Agricultural Experiment Station:

The nest is a box-like structure, without front, ends, or cover, 28in. long, 13in. wide, and 16in. deep, inside measure. A division board with a circular opening 7½in. in diameter is placed across the box 12in. from the

rear end and 15 in. from the front end. The rear section is the nest proper. Instead of having the partition between the two parts of the nest made with a circular hole it is possible to have simply a straight board partition extending up 6 in. from the bottom. The partition with circular opening is, however, recommended.

The front portion of the nest has no fixed bottom. Instead there is a movable bottom or treadle which is hinged at the back end. To this treadle is hinged the door of the nest. The treadle is made of $\frac{1}{2}$ in. pine stuff with $1\frac{1}{2}$ in. hard wood cleats at each end to hold the screws which fasten the hinges. It is 12 in. wide and $12\frac{1}{2}$ in. long. Across its upper face just behind the hinges holding the door is nailed a pine strip 4 in. wide bevelled on both sides. The door of the nest is not made solid but is an open frame to the inner side of which is fastened (with staples or cleats) a rectangular piece of $\frac{1}{4}$ in. mesh galvanised screening (dimensions 8 in. by 9 in.). The sides of the door are strips of $\frac{3}{4}$ in. beech stuff 12 in. long and $1\frac{1}{2}$ in. wide halved at the ends to join to the top and bottom of the door. The top of the door is a strip of hard wood 13 in. long and $1\frac{1}{2}$ in. wide, halved in $2\frac{3}{4}$ in. from each end. The projecting ends of this top strip serve as stops for the door when it closes. The bottom of the door is a hard wood strip $10\frac{1}{2}$ in. by 4 in. The side strips are fitted into the ends of this bottom strip in such way as to project slightly (about 1-32 in.) above the front surface of that strip for a reason which will be apparent.

When the nest is open the door extends horizontally in front. In this position the side strips of the door rest on a strip of beech $1\frac{1}{2}$ in. wide bevelled on the inner corner. This beech is nailed to a board 4 in. wide, which forms the front of the nest-box proper. To the bottom of this is nailed a strip 2 in. wide, into which are set 4 in. spikes from which the heads have been cut. The treadle rests on these spikes when the nest is closed. The hinges used in fastening the treadle and door are narrow 3 in. galvanised butts with brass pins made to work very easily.

THE MOULTING OF FOWLS.

OF the many experiments, trials and tests, which have been carried out by the various experiment stations and colleges the world over, not one can be said to have been conclusive, and though they have undoubtedly added to the store of knowledge on matters connected with poultry husbandry, yet they have but indicated the right lines along which further experiments and tests should take place. Although this has been the case in the past, we must acknowledge that the work accomplished under the direction of Professor J. E. Rice, by Miss Clara Nixon and Messrs. F. S. Conger and C. A. Rogers, of Cornell University, on the moulting of fowls is most complete, and the results obtained are certainly definite. The object of the experiment was to secure facts "as to the nature and growth of feathers and conditions that govern their development." The results were secured by several series of observations of birds during the moulting period; and, moreover, as feeding experiments were conducted at the same time, the conclusions arrived at are most important. We regret we cannot give the Bulletin (No. 258) in full, but the summary of findings which we publish will indicate the lines which were followed and the results achieved. The Bulletin is well illustrated with photographs of birds at different

stages of the various moults, and with diagrams showing the relation between food consumption, weight of birds, and egg-production. We reproduce three of the latter.

GENERAL ADVICE AND SUMMARY.

METHOD OF FEEDING.

It is generally held that the method of feeding and the quality and quantity of food has much influence on the time, rapidity, and uniformity of moult.

In the absence of reliable data as to the best method of feeding fowls during the critical period of the moult it would seem desirable to follow the practice commonly believed to be correct—namely, to feed liberally on rations which are easy of digestion and rich in protein and oil. Therefore, in addition to the regular rations, such foods as meat, oil meal, sunflower seed, &c., should be added, or, if already being fed, should be increased in amount. This modified ration is given in order to meet the increased demands of the body for feather-making material at a time when the system presumably would be in need of protein to furnish nitrogen for the growth of feathers and oil to supply available heat for the scantily protected body.

WHAT IS THE NORMAL MOULT?

From the facts now at hand regarding the moulting of fowls, it seems that the best moult, considering the question of the vitality of the stock, is one when the fowl sheds the old feathers and replaces them in a regular sequence with the new, without leaving the individual at any time in an exposed and defenceless condition, and therefore in danger either from inclement weather or inability to escape from its natural enemies.

When fowls moult naturally and well, one should scarcely be able to notice that the flock is moulting, except that the shed feathers are found in large quantities about the place. These hens, however, may not be the most highly developed producers. Just how far man may safely go in his development of the productive powers of the hen, without endangering her life or the vitality of her offspring by artificial conditions, remains to be proved. It would appear that one of the first natural results, as a consequence of an increased egg yield, is a postponement of the time of the moult.

Hen number 61 (Figs. 19 and 20) is a good example of the abnormal moult. Her inherited disposition to lay was apparently so strongly developed that it overbalanced the natural habit to moult during the usual and proper season. As a result, she would have paid the penalty of too high production, and retarded moult, by suffering from the November cold, if special care had not been provided for her.

SUMMARY OF FINDINGS.

1. The rotation of moulting was practically the same with hens of all ages—the oldest feather being shed first.
2. The chick and hen both feathered more quickly in such areas as would protect the vital parts.
3. From the incubator to the laying period the chicks experienced at least four moults, either partial or complete.
4. Hens frequently laid during the summer while partially moulting, but seldom during the general moult.
5. Hens have individual traits as to season of moulting, but seldom as to rotation of moult.
6. Young hens moulted more quickly than older ones.
7. Young hens were more easily influenced by methods of feeding than older ones.
8. Hens moulting very late moulted in less time than those moulting earlier.
9. Hens moulting very late gave a higher yearly production than those moulting earlier.

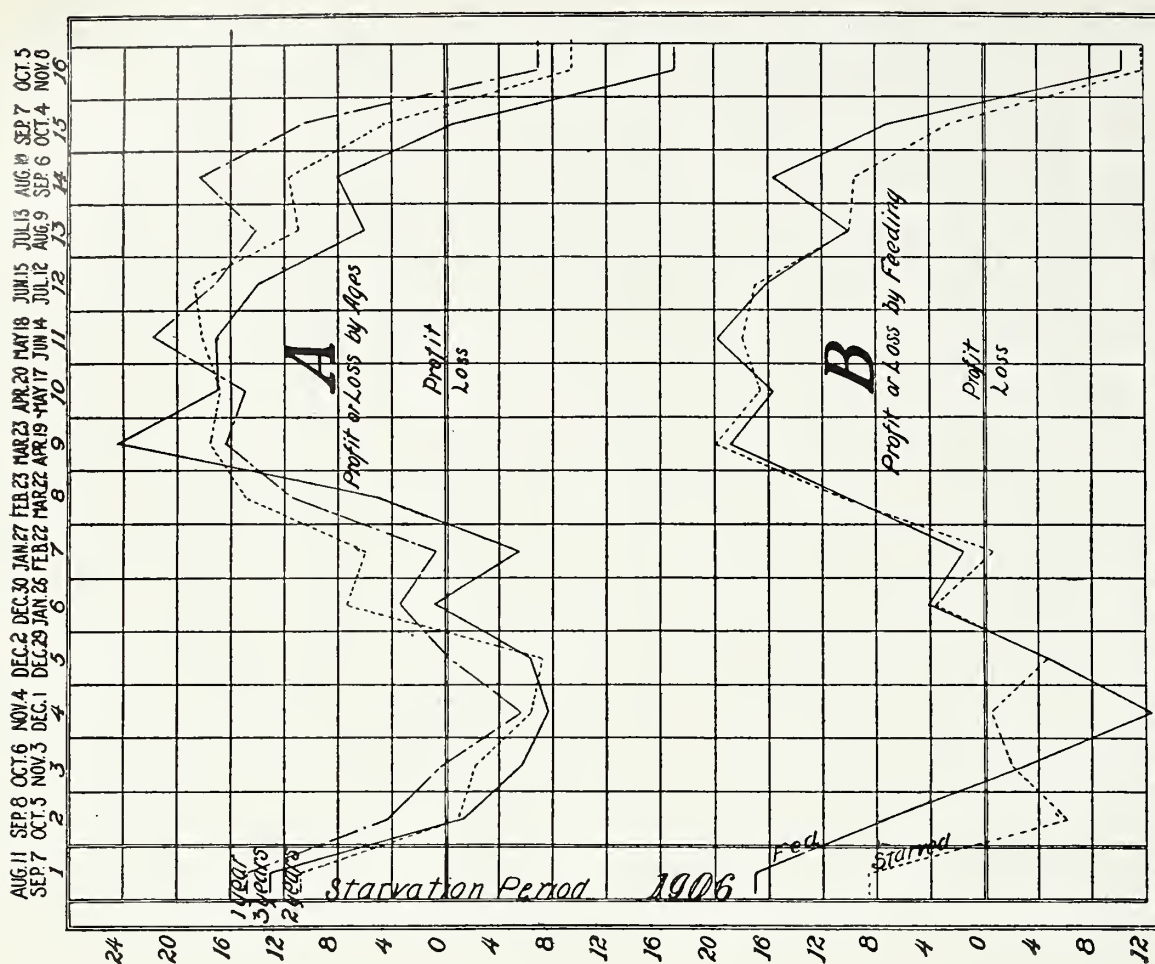


FIG. 22.—A comparison of the profits of the flocks, by periods of 28 days.

— = 1 year old.
 = 2 years old.
 = 3 years old.
 = Starved flocks.
 = Fed flocks.

Note that all the flocks were kept at a loss during the months of Oct., Nov. and Dec. and that the starved flocks made a less profit during the starvation period than the fed flocks, and only a slightly less loss during the early winter months and considerably less profit during the latter part of the year.

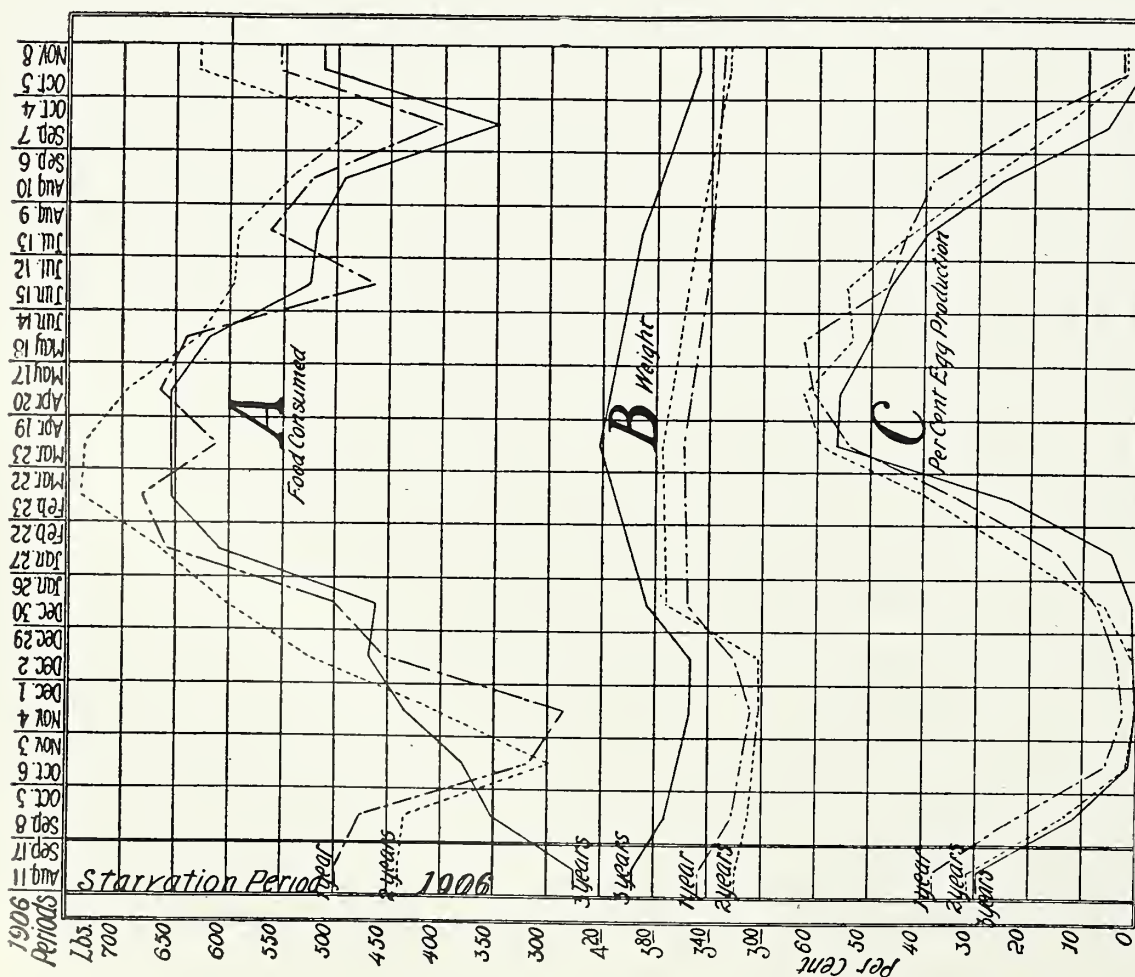


FIG. 16.—A comparison of one, two and three year olds per period of 28 days, of both starved and fed fowls. A=Consumption of food. B=Weight of fowls. C=Percentage egg production. Note that an increase or decrease in weight is usually preceded by corresponding increase or decrease in the amount of food consumed by each flock, and that an increase or decrease in per cent egg production is preceded by a corresponding increase or decrease in weight of each flock. It will also be observed that there is great uniformity between the various flocks each period as to increase or decrease in food consumption, weight and per cent egg production.

10. Hens normally fed tended to moult at the same season in successive years.

11. The "forced moult" in one year did not influence materially, as to time and completeness, the moult of the succeeding year.

12. Hens lost in weight while moulting.

13. Hens often regained weight before close of moult, and more especially before commencing to lay.

14. Broodiness appeared to retard moult.

15. The starvation process appeared to increase broodiness.

16. Hens moulting early resumed production more quickly after moult than those moulting later.

17. Hens moulting early laid more eggs during early winter than hens moulting late.

18. The most prolific hens moulted latest.

19. As compared to the fed flocks, the starved hens

(a) moulted slightly earlier and more uniformly. They

(b) were in somewhat better condition at the end of the moult ;

(c) moulted (average) in slightly less time ;

(d) gained less above first weight during moult ;

(e) gained slightly more in weight during the year ;

(f) resumed production somewhat more quickly after moult ;

(g) laid a few more eggs during winter ;

(h) were materially retarded in egg-production ;

(i) produced less eggs after the moult was completed ;

(j) produced eggs at a greater cost per dozen ;

(k) consumed slightly less food during the year ;

(l) had slightly less mortality ;

(m) showed slightly more broodiness ;

(n) paid a much smaller profit.

20. The fowls produced the largest profits in the order of their ages. The one-year-old hens produced the greatest number of eggs and gave the largest net profits. The two-year-olds were a close second with the three-year-olds somewhat farther behind, having, however, a good balance profit to their credit.

21. There was considerably less mortality in the two-year-olds, which were hopper fed dry mash, than

in either the one-year-olds or three-year-olds, which were fed a wet mash.

22. The cost per dozen eggs was greatest in the three-year-old pens, followed closely by the two-year-olds, and was least with the one-year-olds.

23. Broodiness was greatest in the two-year-olds and least in the three-year-olds.

24. It was noticeable that broodiness was nearly always confined to a few individuals, and that, although immediately broken up, they became broody again and again.

25. The fact that there was 67.6 per cent. of broodiness in starved pens against 38.1 per cent. in the fed pens would indicate that there might be some connection between the amount of food consumed and broodiness in fowls. In this case a restriction in diet appeared to induce broodiness.

26. It was noticeable with all flocks that they consumed much larger quantities of food and increased in weight before beginning egg-production. This would seem to indicate that the maximum production is preceded by a preparatory stage, during which the body stores up surplus nutrients against a time of need.

The above findings are based on this experiment only, and must not be understood to be necessarily conclusive.

GENERAL CONCLUSIONS.

The findings would indicate that with the methods employed, with White Leghorn fowls, one, two, or three years old, it does not pay to "force a moult" by starvation method, and that apparently it is good policy to encourage hens, by good care and feeding, to lay during late summer and fall, rather than to resort to unusual means to stop laying in order to induce an early moult, with the hope of increasing productiveness during early winter, a season which is naturally unfavourable for egg-production. In short, it appears wise, when hens want to lay, to let them lay.

This experiment should be repeated under similar conditions with the same variety or with different varieties of fowls before final conclusions can be drawn. Moulting experiments should also be conducted with various methods of feeding to control the moult before the method of so-called "forcing moult" can be safely accepted or rejected.

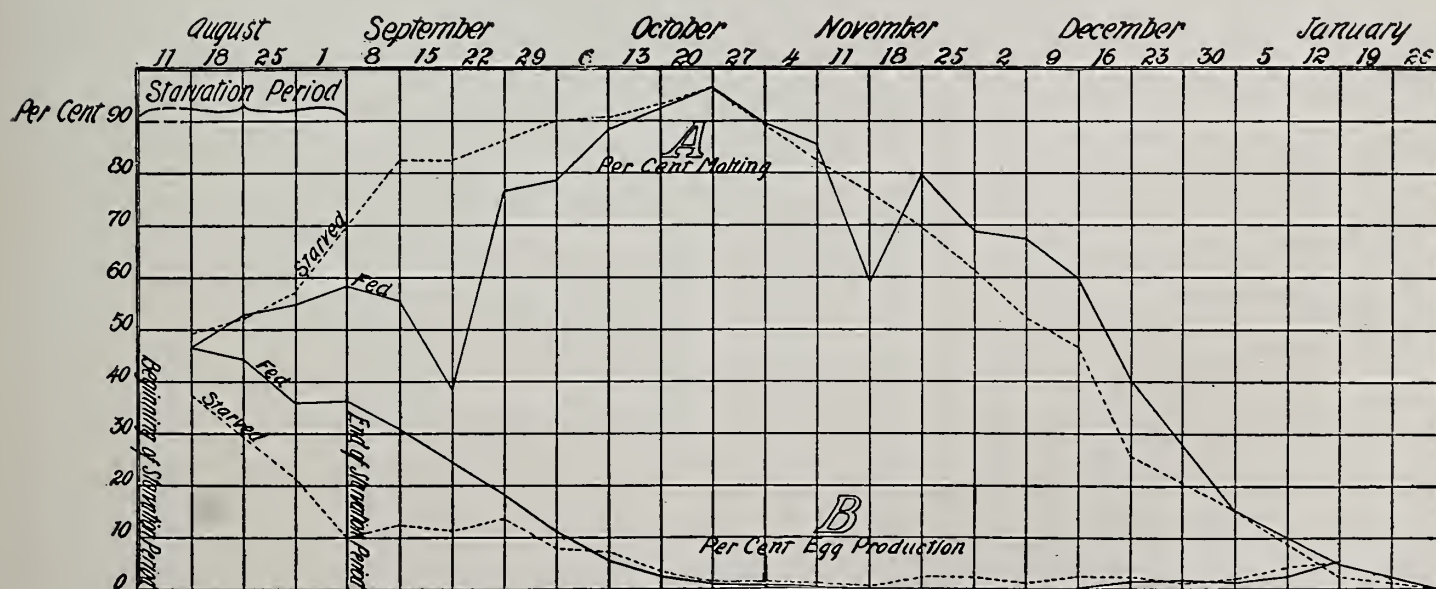
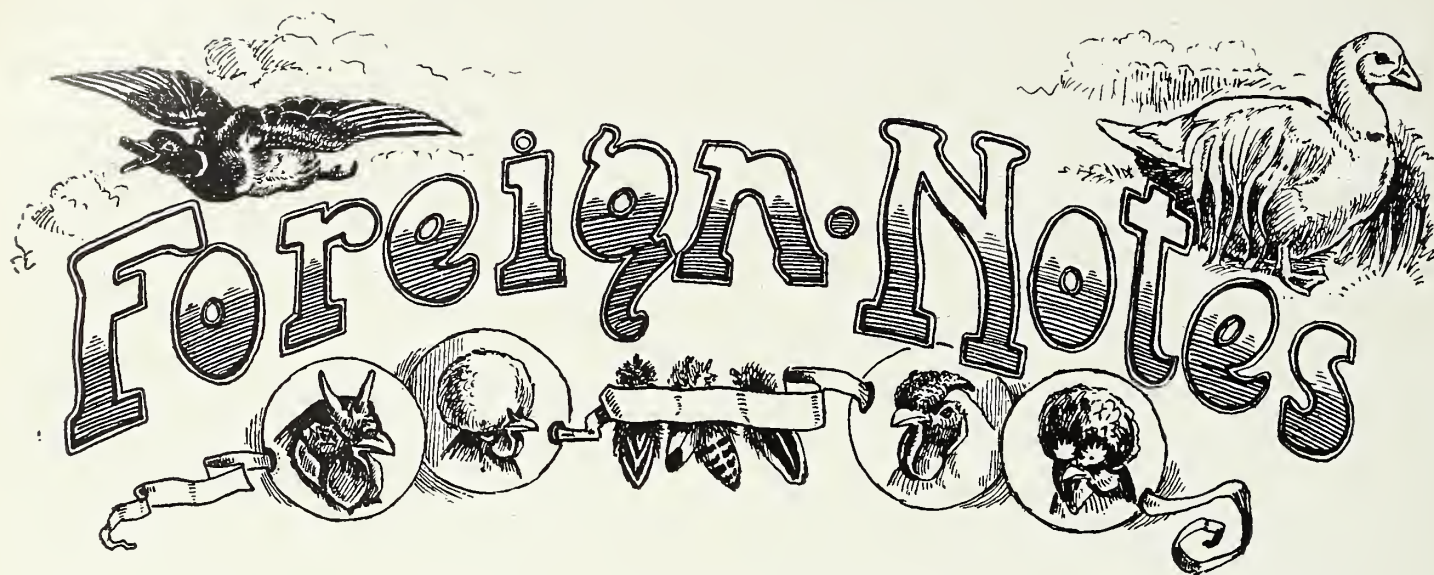


FIG. 18.—A comparison of molting and egg production during molt. Average of three starved and three fed pens. Periods of 7 days. Starved..... Pens 5, 19, 24. Fed——— Pens 8, 22, 25. Note that during the molting season as the per cent molt increased in the flocks the per cent egg production decreased, and that as the per cent molting decreased the per cent egg production increased.



Professor Davenport.

We were pleased to receive a visit last month from Professor C. B. Davenport, the Director of the Station for Experimental Evolution, Cold Spring Harbour, N.Y. Professor Davenport was spending a fortnight in this country for the purpose of attending the Darwin Centenary Meetings. His work in connection with the science of evolution and heredity is almost as well known on this side of the Atlantic as on his own, and English scientists were as pleased as we were to welcome him during his brief stay among us.

Fiji Islands.

Mr. Arnold B. Stock informs us that he is sailing immediately for the Fiji Islands to take up poultry culture there. He is an enthusiastic believer in the possibilities of the poultry industry in those parts, and as he takes with him both a home and a foreign experience—he spent a considerable time in British Columbia—he is well qualified to give the venture a fair chance. We cordially wish him every success. Later on we hope to publish an article by him regarding his experiences in the new land.

Where Eggs are 14s. 6d. a Dozen.

Alaska seems to be the most unlikely place for poultry-keeping, but animals are wonderfully adaptable, if they are given a fair chance. Mr. F. E. Becker, writing in the *Feather*, tells of a poultry establishment in Alaska where the thermometer registers 50deg. below zero, but where new-laid eggs sell at the price named.

We started out to investigate, and found a place where Fairbanks eggs come from, and we found that the man who is running that hennery has suffered all the trials and tribulations that are sufficient to constitute

him a member of the academy of immortals among hen-raisers. It was out at Mike Balton's place, known as the Fairbanks Chicken Ranch, on the corner of Seventh and Cowles. The ranch itself is only about 150ft. by 150ft., but even on the area some startling results have been achieved. There are all sorts of yards designed as a summer playground, but in these days of low temperatures, when a hen would freeze her toes in about two minutes, the feathered members of the community spend their time in a three-story, furnace-heated log cabin where the electric lights get them up in the morning and where sand-baths are on tap constantly without extra charge. There are over 300 residents of the colony, and at the present time there are no members in the hospital.

Preservation of Eggs.

The *Experiment Station Record* states that a series of experiments has been carried out in Germany with respect to the preservation of eggs.

Eggs kept in close glass vessels embedded in sand spoiled in six weeks, thereby indicating the necessity of ventilation. Kept in cool cellars with good ventilation, they remained fresh as long as when packed in sand, straw, or other material. Eggs coated with paraffin or with hydrofluosilic acid soon spoiled. Better results were obtained by coating with shellac. Preservation by coating with permanganate of potash or a solution of water-glass or Hanika's method of dipping in hot water and alcohol gave good results. A 10 per cent. solution of water-glass is considered the best liquid preservative, although glycerine, lime-water, and a 3 per cent. solution of water-glass are good. In practice dry preservation in cold storage near the freezing-point with an atmosphere of 80 per cent. humidity is strongly recommended.

National Poultry Association of America.

Announcements have been made as to the formation of a National Poultry Association in the United States, of which Mr. C. F. Townsend, of Weedsport, N.Y., is president. Associated with him are such well-known

breeders as Messrs. H. Trafford, U. R. Fishel, A. G. Dunston, E. de Graff, W. Barry Owen, P. A. Cook, G. E. Howard, &c. This is not intended in any sense to compete with or rival the American Poultry Association, which is largely concerned with exhibition stock, but to deal with the question on practical lines, seeking to encourage and develop the industry in its economic aspects. Considering the vast extent of poultry-breeding in America and its growing importance, there is abundance of room for different societies, each working for special objects.

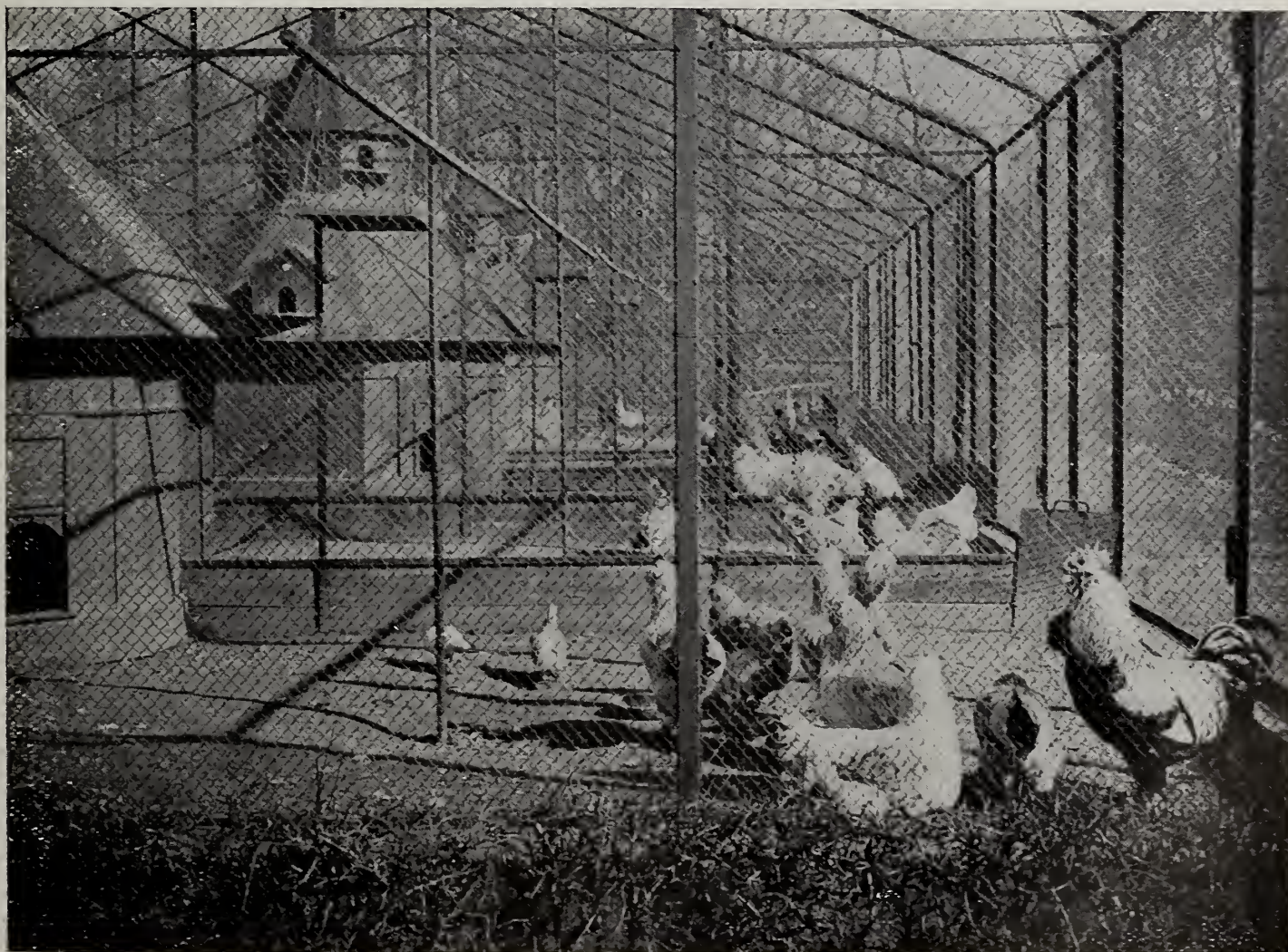
Ripened Eggs.

The Chinese prefer mature eggs, those that are three years old for preference. These are regarded as a great delicacy, and are much more expensive than the fresh product. We have eaten and enjoyed them. They differ distinctly from the new-laid, and have a flavour unrecognisable. To the stale egg these bear the same relationship as a matured wine does to the must. Professor John L. Coulter, of Minneapolis, has been claiming that cold-stored eggs are much better than the so-called fresh variety, and that eggs grow better with age. It all depends upon the age, so the Professor thinks, as do the Chinese. Unless they can be eaten

when really new laid, when we opine everyone will regard them as at their best, then they should be kept until the chemical change is completed. Perhaps some day our shops may be placarded with the legend, "Fully-Matured Eggs," selling them at sixpence each. Evidently the rotten egg has an especial value if not used at that stage.

THE POULTRY-YARDS AT THE ZOOLOGICAL GARDEN AT COPENHAGEN.

IN the Zoological Garden in Copenhagen is always to be seen a collection of different breeds of poultry. At this time are exhibited breeds especially for fattening purposes, such as Faverolles, White Malines, Indian Games, and Buff Orpingtons. In the photo is seen the first-named breed, which is preferred in Denmark for fattening, and is often bred at the large farms and country seats, as the hen does well in our climate and lays a good many coloured eggs of medium size in winter time. As regards pigeons, the Garden is going in for Coburger Lerchentauben and Strazertauben german table pigeons.



POULTRY AT THE COPENHAGEN ZOO.

[Copyright.]

TWO NEW FRENCH BREEDS OF FOWLS.

POULTRY-BREEDING on industrial lines has been a general pursuit in Northern France for a far longer period than is attested by actual records. That is as true of the districts to the north and east of Calais as of Normandy and elsewhere. In fact, there is probably

though politically different, and the conditions and methods are similar. Over this extensive area poultry-keeping enters largely into farm operations; and production is great, for every farm maintains a good flock of fowls.

At one period England formed the chief market for eggs. From the old port of Gravelines, famous in history for the struggles between English and French



Drawn by Oscar Hardee.]

THE BOURBOURG FOWL.

[Copyright.]

no section of the country which has maintained a greater head of poultry stock than in the triangle of which Amiens and St. Quentin form the base, with Calais and Dunkirk at the apex. As mentioned previously, a considerable portion of this area, inclusive of the Lille district, at one time belonged to Flanders, and the people are of the same race as in Western Belgium,

shipments were made direct to London by sailing vessels, and these crossed the Channel laden with eggs laid by the prolific hens of Artois and Picardy. At that time there were twenty egg merchants in Gravelines alone who gathered their supplies from the hinterland. Now there is only one. The reason is not found in a reduced production, for that has increased, but in a

more prolific demand at home. The enormous development of manufactures and industrial enterprises in and around Lille, Roubaix, St. Omer, &c., has been followed by a great growth of population, with a vastly increased purchasing power, to meet the needs of which supplies have to be drawn from a wide area in France, and also from Belgium. This has greatly stimulated the keeping of poultry and attracted the attention of producers and merchants on all sides.

Many of the old-time breeds found in the district referred to were very similar to those met with in Belgium, such as the Braekel, Malines, &c., and their influence is to be seen in many parts of the country. Special efforts, however, have been put forth to develop types of fowls which would produce tinted-shell eggs of a deep colour on the one hand, with abundance of white-skinned meat on the other. One of these is the Bourbourg, found largely in the northern section, between St. Omer and the sea, taking its name from the town of that designation. Another is the Estaires, bred nearer to Lille, and called after a little town situated to the west of that city. Both belong to the general purpose type, and have been bred on utility lines. They are kept for egg-production and table properties, and neither of these qualities is sacrificed to the other.

Bourbourg Fowl.

It has been stated that this breed has descended from the Malines, but we have no evidence as to whether that is so or not. That both owe much to the same influence cannot be doubted. The general type and appearance prove such to be the case. If so, the Bourbourg follows more closely the light Brahma in plumage, probably owing its single comb to the fowl which at one time was common in the district. As a farmers' fowl it is excellent in every way, hardy, quiet in disposition, able to secure much of its own food, precocious in growth, meaty, and making a good-bodied chicken, capable of fattening well, whilst the hens are reputed to be fairly prolific, laying good-sized and deep salmon-tinted shell eggs. They are good sitters, but only become broody twice in the year. The following description is taken from Mr. Edward Brown's "Races of Domestic Poultry":

The Bourbourg is a full, medium-sized fowl, with longish body, standing on rather short legs, following the Asiatic type in that it is somewhat upright and flat in breast; the back is flat and large; the neck is medium in length, stout, well arched, and abundantly covered with hackle; head large and short, with a short, strong, well-curved beak, which in colour is pinky-white, with several lines of pale brown; comb single, upright, well serrated, and rather large, following the lines of the skull; wattles medium in size and bright red, as are the comb and face; eyes large and

bright; there is a small beard of fine feathers growing upwards; the tail is of moderate size, carried closely, furnished with sickles of medium length; thighs stout, well feathered, but not hocked; legs strong and stout, covered on the outer side with short feathers, and pinky-white in colour; the toes are long and four in number; in colour of plumage the Bourbourg closely follows the Light Brahma—namely, the head, back, saddle, breast, chest, abdomen, and thighs are silvery-white; the hackles are white striped with black; the primary and secondary feathers of the wings are black, with outer feathers white, and the tail is black, on the outer sides touched with white. Weight: males, 6½lb. to 9lb.; females, 6lb. to 7lb. The constant tendency in these birds is to follow the Asiatic type, more especially in shape of body, in comb, and in colour of legs.

Estaires Fowl.

This breed probably owns the same basis as the Bourbourg, but the appearance at once indicates that other influences have been at work, both as to type and colouration of plumage. Around Estaires flesh qualities are of special importance, as it is thence that are obtained the best fowls which are sold on the Lille and other markets of Picardy. These are called "poulardes de Bresse" or "chapons du Mans," though they have no direct connection with either one or the other. It is a name like that given to Stilton cheese, whether made in Leicestershire or Canada. Many of the birds are shaped *à la bresse*, but lack the fine bone and delicate meat of the real Simon Pure. Still, those found in the Lille markets or poulterers' shops are excellent, good in colour, and fleshy. To secure the quality desired a game cross was evidently introduced, refining the texture of the meat and increasing breast development, and afterwards the Langshan (Croad, not Crutched) was used, to which the race owes its metallic black plumage and the slight featheration of legs. As layers the hens are very good indeed, producing fine brown eggs of medium size. They also sit well. The chickens are not so quick in growth as the Bourbourg, but are intended to produce the larger-sized birds so much in demand. It is stated that they are hardy, but do not range widely. In this case also we quote description from the work already mentioned:

The body is large and long, with a prominent breast, short tail, and giving the appearance of a thick-set, meaty fowl; the neck is of medium length, with close hackle, head moderate in size, rather long, as is the beak; comb single, large, well serrated, and falling over in the hen, but upright in the cock, with wattles in unison, and both fine in texture; the eye is not very prominent; ear-lobe small and red; legs medium in length, stout, but not heavy in bone, and slightly feathered down the outer side, as are the outer toes; in colour the legs and feet are dark blue; the plumage is bright black, with metallic reflections, like its progenitor the Langshan, but of the older type, as the long-legged modern Langshan would be regarded as useless in France. Weight: males, 7lb. to 8lb.; females, 6lb. to 7lb.



Cold v. Warm Houses.

The report for 1908 of the Ontario Agricultural College contains the usual record, by Professor W. R. Graham, of the Poultry Section, and confirms that published in our June issue (pp. 580-1) from Ottawa respecting open-front houses. Birds in four classes of houses were tested.

The results, so far as winter egg-production is concerned, has been practically the same each season; that is, the coldest or cheapest house built of single ply boards has given the best results, and the warmest, built of several thicknesses of board and paper with a four-inch dead air space between the walls, has given the poorest results each winter. The houses of intermediate type have done very well; in fact, during the winter of 1907-8 they did nearly as well as the cold house. It may be of some interest to give the eggs from five White Wyandotte sisters of the same age in each of the four houses for December, January, and February, 1907-8:

	Dec.	Jan.	Feb.	Total.
Cold house	43	50	47	140
Warm house	—	23	21	44
Curtain-front house	15	50	50	115
House with adjustable window	2	37	31	70

The following results were obtained in the same house from six half-sisters of the Buff Orpington breed:

	Dec.	Jan.	Feb.	Total.
Cold house	2	61	87	150
Warm house	22	46	63	131
Curtain-front house	23	34	60	117
House with adjustable window	52	58	63	173

Fowl Cholera.

In a recent number of the *Agricultural Journal of India* announcement is made of a discovery which may prove of great importance to poultry-keepers not only in Asia but in other parts of the world. Conductor Dare, while studying the surra disease in camels, found by the use of the microscope that the death of some ducks from "cholera" was really due to a specific organism of the *spirochoetes* type. It is spread by the agency of the common fowl tick. The value of this discovery is in revealing the dangers of conditions favourable to the

increase and propagation of these parasites which not only prey upon fowls, but also may cause those outbreaks that have devastated several countries. With the fear of the dreaded "fowl cholera" a stimulus to increased attention to sanitation and cleanliness should result.

Well Begun.

It is a pleasure to note that for some time South African papers have been paying considerable attention to poultry-keeping, and, among others, the *Cape Argus* has now commenced a regular section dealing with all classes of feathered stock. In a recent issue, after announcing the fact, it stated:

In regard to poultry, our chief concern will be the utility side of the question, such as the raising of poultry and production of eggs for market, and our special endeavours will be directed to meet the case of the small poultry-owner. The great success which has been attained by cottagers and small farmers in England, America, and the Continent in producing poultry and eggs for market purposes constrains us to believe that these means of augmenting the family income will not be lost sight of out here, where many advantages exist which are absent in the localities named.

Indian Runner Duck Record.

The *New Zealand Poultry Journal* says that an Indian Runner duck, owned by Mr. S. H. Scott, of Onehunga, N.Z., laid 320 eggs from March 7, 1908, to March 6, 1909, or in 365 days, and that her tale for twenty months is 443 eggs. The monthly figures are: March 7 to 31, 24; April, 26; May, 31; June, 30; July, 30; August, 30; September, 29; October, 28; November, 28; December, 27; January, 15; February, 16; March (to 6th), 6. Runners are known to lay well, but this is phenomenal, and her time for moult and recreation was very limited indeed.

Table Poultry in New Zealand.

Broadening of outlook in regard to the poultry industry is evident everywhere, here in one direction,

there in another, though, as we show below, enthusiasts are sometimes led far astray. The *New Zealand Herald* says :

There is probably no field which offers better inducements for the establishment of profitable business than the breeding of table poultry. The consuming public of New Zealand lives at a higher standard than the public in any other part of the world, and so there is an almost insatiable market ready at the door. Over and above that, England and Continental markets will take poultry in almost any quantity, and there is no reason why, in time, the trade in frozen poultry should not be as important as that in frozen lamb. . . . Like the fat lamb, the table bird has to be fed from the start and turned off prime at an early age.

The chief poultry expert, Mr. D. D. Hyde, who is at present on a visit to Auckland, has decided to have cramming demonstrations carried out during the year, so that this important means of producing high-class table poultry may be rightly appreciated.

But when we read in the same journal that

It is now possible to keep eggs in Auckland for two or three years, and then land them on the London and Continental markets as fresh as the day they were received at the grading depot,

we can only say, Prodigious ! Words fail us entirely.

A New South Wales Poultry Farm.

A recent number of the *Agricultural Gazette of New South Wales* contains an interesting account of the "Success Poultry Farm" at Belmore, near Sydney, owned by Mr. R. Rhodes, who, by the quality of his products, commands an important place in the markets of that city. Egg-production and duck-breeding are the main objects of the farm, which is conducted on essentially practical lines. Leghorns provide the former in abundance, but the races of ducks are varied—Muscovys, Indian Runners, Aylesburys, and Pekins are all kept. Incubators are not used, as all the hatching is by Muscovy ducks. One of the illustrations which accompany the article shows these "broodies" in ranges of apex sitting-boxes under a lean-to. The *Preston Guardian* states that Mr. Rhodes is a Lancashire man, having emigrated from Fulwood, near Preston.

Foes to Poultry.

We have many enemies to poultry in this country—rats, as testified by "Home Counties," crows, foxes, &c. But, fortunately, we are free from many depredators met with in other climes. The *South African Poultry Journal* gives photographs of a python which has been for some time taking toll of one of the poultry-yards at Northdene, near Durban, Natal, and which is termed "An Obstacle to Successful Poultry-Farming in South Africa." The first photograph shows the snake at rest with one fowl in its coils, and with two protuberances in its body, which, when the reptile was dissected, proved to be two other fowls he had swallowed. He was shot when about to seize a fourth. In the second photo the fowls are seen as taken from his body after dissection.

THE POULTRY INDUSTRY IN THE TRANSVAAL.

By C. DEVONSHIRE (of Johannesburg).

IN response to your courteous invitation that I should contribute an article to your valuable paper, I submit the following with considerable diffidence. Perhaps I may be permitted, by way of introduction, to state that I have been engaged in investigating the problems connected with the establishment of a poultry industry in the O.R.C. and Transvaal for the past six years, since, in fact, the second year after peace was proclaimed. My investigations led me to conclusions which impelled me, some three years ago, to attack the then existing official exponents of poultry culture, whether as Government experts or as private individuals representing poultry organisations, which were in receipt of a Government subsidy. I believed that their policy was unsound, their methods primitive, and their birds bred for purposes which were the reverse of beneficial to this young country. Such a view naturally involved me in somewhat embittered controversy in the public Press, and I am aware that a partisan always runs the risk of becoming one-sided. It is for this reason that I accept the invitation with which you have honoured me with diffidence, lest I may appear to overstate or distort my facts. On the other hand, I may be permitted to observe that the views which, in common with my friends, I have repeatedly urged in the public Press have met with a measure of endorsement from the public, which has led to radical changes in the policy of the poultry clubs of this Colony of the Transvaal, so that we may claim perhaps some measure of truth for our contentions.

The outstanding factor which has overridden all others, and still to a large extent does so, is the widespread belief that poultry-breeding as a sole means of livelihood was impossible in South Africa, owing to the periodical—generally yearly—occurrence of mysterious epidemics, which carried off, in many cases, entire flocks of birds in a few days. After some years of investigation in the veldt I came to the conclusion that these epidemics were due to a shortage of certain mineral salts in the soils, &c., of South Africa ; in a word, that the birds were dying of starvation of the material required for the maintenance of the bone, gastric juice, secretions of the liver, &c.—that poultry sickness was another name for starvation. My theory was endorsed by the Agricultural Department of this Colony, and my conclusions elaborated in a most valuable article by Mr. Ingle, the Government Chemist, in the *Transvaal Agricultural Journal* of April, 1907. Mr. Ingle kindly furnished me with a formula for the missing salts, which, after many modifications, suggested by experience, I have found to give the required results—viz., an entire absence of poultry sickness in my yards for the past four years. I say the past four years, as prior to the receipt of Mr. Ingle's formula I had used another and less suitable formula, which served, however, to show that I had located the cause of our troubles. I have bred some

4,000 ducks and chicks for experimental purposes during the whole period, which may, perhaps, be regarded as a sufficient number to justify the drawing of a general conclusion as to the nature of poultry sickness in these Colonies.

As may be supposed, the prevalence of these epidemics had led almost universally to the opinion that poultry-breeding on a large scale was impracticable, and I well remember, in the early days after the war, how farmers in all parts would assert that there was nothing in poultry-breeding—that they had tried it and failed. The natural result was that poultry culture came to be regarded as a hobby, or as a means of supplying the farmhouse with a few eggs and chickens which might be bartered at the local store for coffee, &c. Scientific methods of poultry-keeping were unknown. The hens, for the most part, roosted in the trees round the farmhouse, or were confined at nights in a rough shed of corrugated iron. As the wooden frame of these sheds was seldom tarred, the dreaded fowl tick sooner or later made its home in the joints of the woodwork, and issued forth at night to prey upon the unfortunate fowls, with the result that many birds were drained of their lifeblood and found dead under the perches in the morning. This mortality was frequently ascribed to fowl-sickness, and therefore regarded as inevitable. Methods of feeding can be described in a word—mealies (i.e., maize) morning and evening. Oyster shell was unknown, and a balanced ration also. Egg-production was therefore limited to the early summer months—August to October or November, when animal and vegetable life was abundant. Unfortunately, however, these months are those in which the heaviest mortality from fowl-sickness might be expected. The surviving hens became broody about Christmas-time—i.e., at midsummer—when the great heat and heavy rainstorms were most inimical to chicken life. Again, these chickens were raised too late for winter laying in May, June, and July, when new-laid eggs per dozen would not infrequently reach the price of 5s. As a result these chickens were idle until August, when every hen in South Africa was laying, and eggs were down to 1s. or 1s. 6d. per dozen. Egg-production on the farms was therefore, as we have said, limited to the early summer months, or about three months out of the twelve. It is not surprising that commercial poultry-raising was regarded as unprofitable and impracticable, and the culture of high-class birds was relegated to the fanciers. These men were few in number, and for the most part were importers, and not breeders, of fancy stock for exhibition at the annual shows. The usual course adopted was to arrange with some English breeder to send a pen of birds out to arrive just before the annual show. In many cases very high prices were paid for these birds, some of which had been successful at the Crystal Palace Show in England. Poultry-culture had sunk to its lowest ebb in these Colonies, since it was limited to winning prizes “on the show.”

Nothing more, as a rule, was heard of these prize-winners after their appearance in the show-pen, and the mortality among them was enormous. We had

few genuine breeders, and not a single great breeder of birds in large numbers; nor could we boast of a single great laying strain which had been created in South Africa. The poultry clubs were composed, as a rule, of these fanciers, who imported birds for the annual show, and the membership rarely exceeded fifty. It is probably true to say that not 1 per cent. of the gentlemen had ever raised more than one hundred chickens in one season in their lives. These clubs, however, posed as the representatives of the poultry industry, and their pretensions were recognised by Government, which made them a considerable yearly grant towards the expenses of exhibiting the birds, which the owners had not bred. Armed with this Government subsidy, the clubs approached the public, and obtained large subscriptions, cups, &c., from public-spirited individuals and firms, who conceived that they were thereby assisting the poultry industry. In a series of articles contributed to the principal papers in Pretoria and Johannesburg, the present writer pointed out that some thirty or forty gentlemen in each principal town were in this fortunate position, that, in return for their outlay in importing birds bred by genuine breeders in the Old Country, the Government would find the funds to pay the cost of exhibiting these birds, while the public supplied the cups, &c., required as prizes, and finally, in many cases, bought the birds at exorbitant prices. There was, in a word, no poultry industry—the public and the Government merely subsidising importers to exhibit birds on two days in the year, and giving such importers a costly advertisement, which enabled them to dispose of their birds in many cases at high prices.

But the evil was very much more far-reaching than would at first sight appear. These birds were imported, as we have seen, exclusively for show purposes, and in the great majority of cases were quite useless for any other. The stamina of the birds and their egg-producing capacity had generally been disregarded or sacrificed to obtain the outward points required—such points being too often developed to an extreme, inconsistent with the maintenance of the general vigour of the bird. We remember a case where a Buff Orpington hen was given a first prize and special at one of the principal shows here. In reply to a question as to her egg-producing capacity, the owner replied that she had only produced two eggs since he had owned her—some considerable number of months. Nearly every well-to-do farmer whom I have known has, at some time or other, been filled with the laudable desire to improve his stock of poultry. He naturally concluded that birds which could win in a show must be the best obtainable and those most likely to answer his purpose, which, needless to say, was purely utility in character. He therefore purchased, often at exorbitant prices, a pen of show birds, and turned these out on his farm. The result was that, owing partly to his mismanagement, but principally to the wretched constitutions of these birds, they died off in the course of a few weeks. There has, therefore, arisen throughout the Colony a widespread belief that all pure-bred birds are bred for show, and,

therefore, that all pure-bred fowls are useless. Hence the average farmer will tell you that he introduces fresh male birds of a different breed every year, the result being that we probably possess a finer collection of mongrel fowls on our farms than could be shown by any other colony in the Empire. Again, such pure-bred males as are introduced on to the farms are generally deficient in stamina, and are from strains where the egg-producing capacity has been neglected, with the result that such males deteriorate rather than improve the utility qualities of the flock.

A further incidental effect of the monopoly enjoyed by the fanciers was that it tended to make them very apprehensive of competition, and consequently they encouraged the idea that poultry-breeding would not pay. Again, to enhance their own claims as specialists in the public mind, they surrounded the subject of poultry-raising with an atmosphere of mystery, as if it were only the specially gifted, like themselves, who could ever master the intricacies of the subject. I was much amused to learn that a fancier, referring to an article of mine on poultry-feeding, stated that "it was quite evident that Mr. Devonshire knew nothing of poultry-breeding, because if he did he would not give the show away." Had these men been genuine breeders, with poultry to sell, they would have been under the necessity of instructing the public, as the American breeders do, in order to encourage them to attempt the keeping of poultry. Having, however, few or no birds to sell, and confining his ambitions to winning a prize at the show, the fancier, so far from desiring that a knowledge of poultry-keeping should become general, was keenly anxious that nothing of the kind should occur, lest it should lead to the breeding of birds which might compete with his own in the show pens.

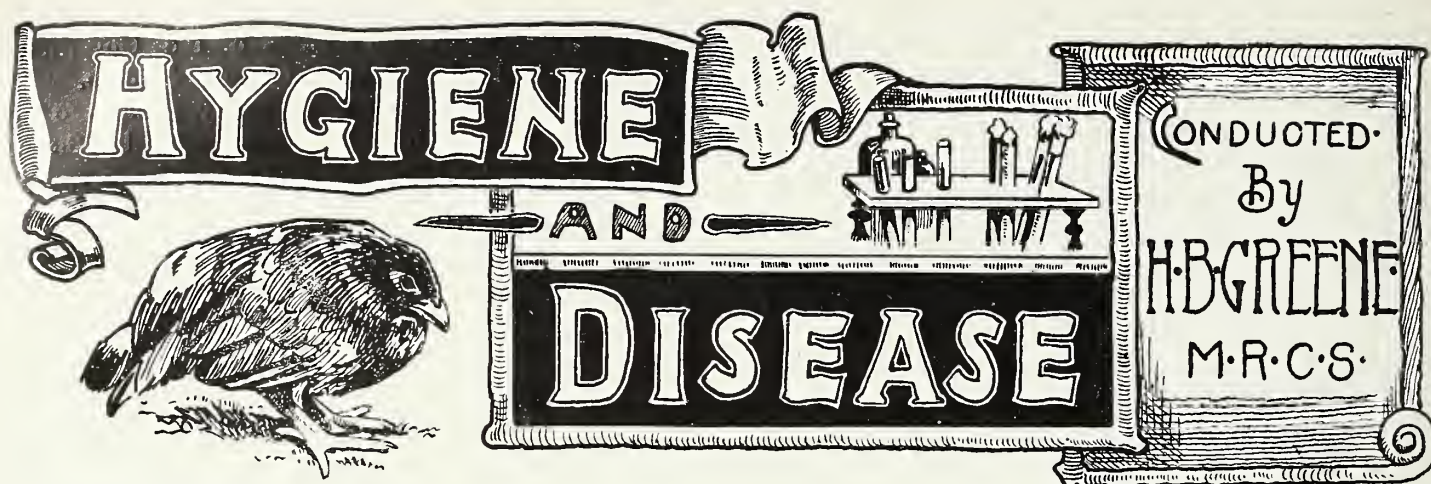
The foregoing arguments were put before the public in Pretoria some three years ago, with the result that, thanks to the labours of friends of the writer, and of Mr. Robert Sharp, the White Wyandotte breeder in Pretoria, in particular, the Poultry Club there was reformed and brought into touch with the requirements of the general public, whose interest in poultry-keeping was steadily increasing. The writer understands that the Transvaal Poultry Club (Pretoria) has now some 500 members, and that the main object of the club is the promotion of the utility side of poultry-breeding. Arising from this reform was the substitution of a federal rather than a unified form of government in poultry matters for the whole of South Africa. The poultry clubs of the Transvaal are now members of the Poultry Union of the Colony, and this Union, we understand, elects members to represent them at a yearly conference of delegates from the poultry unions of the other Colonies.

The result of the aims and policy of the fanciers in the past has been to discredit English birds and English breeders to a very large extent throughout the two

Colonies. And this discredit has been further accentuated by the unfortunate records of the Government Experimental Poultry Plant at Potchefstroom. The expert, either from choice or necessity, appears to have stocked his plant with English strains bred rather for show purposes than for prolificacy and large egg-production. The result is that after four or five years the Acting Director, in his report to Government, advises that a fresh start should be made and the experimental farm restocked. So far from a laying strain of birds having been created by the Government expert during the past five years, he now admits that he must begin again.

In view of the admitted failure of the experimental farm, the advance which undoubtedly is taking place in poultry-keeping must be attributed to private initiative rather than to Government encouragement. The Acting Director practically admits that this is the case when in his report he urges that the time has come to restock Potchefstroom in order to bring it into line with the demands of the Colony—Potchefstroom being behind, that is, rather than in advance of public opinion.

The trend of poultry culture in this Colony is therefore all in the direction of supplying the market, and for the time being the demand for very high-bred birds has fallen off. In the course of conversation with a leading fancier a day or two ago he informed the writer that he could not obtain high prices even for birds which had won first prizes at the shows. With the growth of the demand for utility qualities in our poultry, and the discredit into which English birds have fallen, there has been a tendency to look to American breeders for stock. The impression is left on the mind that the English breeders do not pay sufficient attention to vital points through many years of skilful selection of their breeding stock. One soon comes to regard the beauty of a bird as largely dependent upon his bodily vigour and power. No beauty of feather can compensate for the lack of these qualities, and once seen the latter become paramount considerations. The market here gives high prices to good fowls, ducklings, and eggs; while the fancy business is at a discount. What is needed is a standard which will be consistent with the preservation of the qualities demanded by the farmer and general public. The American breeders appear to disregard the demands of their standard, where this involves the sacrifice of the usefulness of the bird, because the demands of their customers are of more value to them than that of the standard. The reverse seems to be the case in England, and so long as that impression prevails here orders for stock are likely to go increasingly to America rather than to England from this part of the world. We want the fancier to preserve type, but a useful, not a useless, type. When the fancier addresses himself to attain that end in this Colony, we believe that he will again command high prices for his stock from the commercial poultry-breeder.



POST-MORTEM EXAMINATIONS.

We have made arrangements by which post-mortem examinations of poultry and game can be effected for our readers upon the following conditions :

1. *The specimen is to be forwarded postage or carriage paid and securely packed to "Biologist," 297, Trinity-road, Wandsworth Common, London, S.W.*
2. *The fee of 2s. 6d. (stamps will not be accepted) must be remitted with each specimen and a letter giving particulars of feeding and housing, or any symptoms which were observed before death.*
3. *Birds should on no account be addressed to the office of the paper. If forwarded there they will be returned to the sender.*

It is recommended that specimens be dispatched by parcels post, where practicable, and as soon after death as possible. A reply will be received by letter, defining the disease, its cause, treatment, and prevention.

Bacteria in Eggs.

Although eggs have always presented to the physiologist an inviting field for original research, their investigation has been chiefly concerned with the formation and growth of the embryo from the cell-nucleus to the chick. The chemistry of the egg has not hitherto received that measure of attention which a subject so closely connected with sanative dietetics demands. But at the International Congress of Applied Chemistry held at Whitsuntide an interesting paper dealing with the chemical examination of eggs was contributed by M. E. Pennington, of the Food Research Laboratory, United States Department of Agriculture. The eggs were those of Barred Plymouth Rocks and White Leghorns, and were examined within forty-eight hours of the time of laying. Among a total of sixty-three eggs there were no less than thirty-five distinct species of bacteria, distributed as a rule in fairly equal numbers in white and yolk. That micro-organisms flourish in eggs just as they are known to do in water is no new fact. Nor is it surprising when it is taken into account that the oviduct of the hen has a free opening at its upper end into the peritoneal cavity, while it terminates below in the cloaca, into which also both the intestine and the kidney duct empty their contents. The numerous organisms that under normal circumstances frequent these regions can

therefore very easily gain access to the oviduct and mingle with the white and yolk. Fortunately for the consumer most of them are harmless, although it is quite conceivable that diphtheritic membrane from a case of roup, finding its way into the oviduct, might become incorporated with an egg and originate diphtheria if consumed uncooked. Still, in its worst aspect the danger to the public is remote. It lies not so much in the consumption of eggs as in that of bad eggs, since bacteria multiply and become a thousandfold more virulent in the presence of decomposing material. There is no reason why in these enlightened days there should not be as stringent a check upon the sale of bad eggs as upon that of bad meat or milk.

An Old Recipe to Fatten July Geese.

Notwithstanding its traditional association with the feast of Michaelmas, the goose is considered by many epicures to be at its best for table in July or August. The flesh is then said to have lost the insipid taste of the gosling, without having yet developed the rank flavour and hardness of the Michaelmas bird. Cobbet, an old-time author on poultry topics, who lived and wrote in the early part of the last century, was a strong advocate of the July goose. His method of fattening it, while a curious one, is yet so simple that we commend it as worthy of revival to those of our readers who may have the desire and opportunity to put it into practice. We reproduce the recipe in Cobbet's own language :

For three years [he says] I have had the finest geese that I ever saw or ever heard of. I have bought from twenty to thirty every one of these years. I buy them off the common late in June or very early in July. I bring the flock home and put them in a pen about 20ft. square, where I keep them well littered so as for them not to get filthy. They have one trough in which I give them dry oats, and they have another trough where they have constantly plenty of clean water. Besides these we give them two or three times a day a parcel of lettuces out of the garden. We give them such as are going to seed, generally ; but the better the lettuces are, the better the geese. If we have no lettuces to spare we give them cabbages, either loaved or not loaved ; though observe, the white cabbages as well as the white lettuce—that is to say, the loaved cabbage and lettuce—are a great deal better than those that are not loaved. This is the food of my geese. They thrive exceedingly upon this food. After we have had the

flock about ten days we begin to kill, and we proceed once or twice a week till about the middle of October and sometimes later. A great number of persons who have eaten of these geese have all declared that they did not imagine that a goose could be brought to be so good a bird.

We should like to be able to add our testimony to that of good Cobbet's guests. If, therefore, any reader, who, after trial, finds the "lettuce and oats" system to be all that is claimed, cares to forward one of the fattened geese to the office, we shall be very pleased, in due course, to pronounce a post-prandial judgment upon its table qualities.

The Care of Ducklings.

The rearing of ducklings is generally attended by a much higher death-rate from casualty and disease than that met with in the rearing of chickens. Yet the three principal agents that cause this mortality are almost, if not altogether, to be avoided with a little care and

foresight. Prolonged exposure to sun induces sunstroke, to which ducklings are peculiarly susceptible, particularly those that are deprived of bathing water, and the number thus lost every year for lack of shade must be immense. Heatstroke is a kindred ailment, to which ducklings of more mature age succumb from being overcrowded in duck-houses, or even sheds, without top ventilation. Ducklings will huddle close together at night, and if large flocks are not divided up as the birds get larger it is easy to understand how, in sultry weather, those in the centre of the pack may die of heat and suffocation. Sunstroke and heatstroke are, therefore, evils easy to prevent. A third cause of loss, and one that is sometimes difficult to trace to its actual source, is a form of cholera peculiar to water-fowl. Of microbic origin, it has been attributed variously to filthy water, decomposing food (especially dried blood), or to feeding continuously on the same polluted patch of ground. But even this scourge can be remedied by attention to hygiene and clean feeding.

REVIEW.

MENDEL'S PRINCIPLES OF HEREDITY.

By W. BATESON, M.A., F.R.S., V.M.H.

(Price 12/- net. Cambridge University Press.)

IN this recent contribution of Professor Bateson to the literature of genetics the student of heredity will find both a concise record of Mendelian research brought right up to date, and an earnest exposition of the doctrine associated with the name of the Austrian friar, in the course of which the author does not fail to drive home every point that can help to vindicate the theory for which he and his faithful band of working disciples have laboured so assiduously for the last eight years. It must be acknowledged that the vast amount of energy that they have devoted to their work has brought to light many additional instances of the occurrence of a regular and well-ordered segregation in experimental crosses made among a great number of varieties in plant and animal life. Whether the results of these experiments justify the assertion that

The conception of Evolution as proceeding through the gradual transformation of masses of individuals by the accumulation of impalpable changes is one that the study of genetics shows immediately to be false,

or whether their opponents are right in holding that Mendelians are wasting their time in demonstrating what may only turn out to be mere abnormalities of reproduction under conditions of artificial selection, are questions that will require much more time and patient research before they are, if, indeed, they ever will be, definitely settled to the satisfaction of both schools of thought.

Meanwhile one cannot fail to be impressed by the extent and scope of the work that has been done, although it is a little disappointing to find among the

many recorded results that so few concern Mendelian segregation in Man. Nor will it ultimately be found of assistance to the new theory to range on its side such examples of physiological abnormality as hæmophilia, colour-blindness, cataract, or that, more familiar to poultry fanciers, of the five-toed fowl. That the first-named is in reality sex-limited and recessive in females is a belief favoured more by tradition than by actual experience in practice, for its presence in them is generally to be discerned in modified but none the less easily recognised forms. It would surely be more reasonable to look on this and kindred structural defects as monstrous fluctuations from the normal, destined by their very nature to fall by the way, but for the misplaced nurture and protection they receive at the hands of a kind though erratic civilisation, rather than include them in any carefully conceived scheme of heredity. To the breeder of poultry and pigeons, much that is contained in Professor Bateson's book will appeal with special interest. The curious limitations that govern inheritance of colour, both in eyes, plumage and shanks, the dominance of certain characters such as "frizzling," "feathered leg," "muff," "crest," and "silkeness," the peculiarities of yellow types, the sex limitation alleged to enter into the results of certain crosses with the Silky Fowl—these, and many things besides, will repay study on the part of the fancier. A knowledge of the methods by which such broad characters can be most rapidly brought to the front and developed will save the breeder much time, but the author distinctly warns us that

Applied to the business of breeding winners in established breeds they cannot materially help, for almost always the points which tell are too fine to be dealt with

in Mendelian analysis. On the question of egg-produc-

tion, also, a warning note is sounded that is worthy of the attention of those enthusiastic but impetuous individuals who have recently been writing so wildly and without reflection, both in contemporary poultry publications and the daily Press, upon the profits that must assuredly attend selection for fecundity on Mendelian lines. For at page 299 we read that

The evidence on the whole suggests that hopes of fixing permanently such a quality as excessive egg-production of fowls or excessive fertility in pigs should not be entertained with great confidence.

This is, after all, only what was to be expected. Another conclusion one is forced to arrive at after reading this work is that many of the show standards of our specialist clubs will bear revision when read in conjunction with what Professor Bateson has to say about "unfixable types." For instance, breeders of Black Leghorns and Black Wyandottes are familiar with the difficulty experienced in producing *hens* with shanks of the requisite yellow colour, while the shanks of the *male*

birds come true to colour. The Golden Duckwing among Game birds, the Andalusian fowl, the Dutch rabbit, and many varieties of the canary are some instances of similar colour difficulties. In all of these the ideal standard set by the fanciers' club is impossible to fix. They are, in the language of Mendelism, unattainable "gametic types."

Part II. of the volume is devoted to a short biography of Mendel, with three portraits and a translation of the two historic papers concerning his theory, while six coloured and thirty-three figured plates illustrate the text of a volume which, although intended to influence the study of genetics in its highest and widest sense, will nevertheless prove a valuable work of reference for every poultry fancier who is willing to give up a little time to what may seem at first a somewhat technical subject. A comprehensive bibliography at the end of the book will be appreciated by those who may desire to enlarge their knowledge of the subject.

H. B. GREENE.



Market Reports, Week Ending May 29.

Trade during the week was fairly good and looking brighter, but the approaching holidays had a somewhat adverse effect towards the latter part. The supply of Aylesbury Ducklings was more plentiful, prices as a consequence ruling rather lower. Spring chickens were rather scarce, and realised good values, but the birds were inclined to be too small for the public. Surrey birds sold well at good prices. Guinea Fowls were scarce. There was no change in the price of Continental eggs, but English were firmer and in good demand.

Week Ending June 5.

Like the previous week, trade was checked by the holidays, but towards the end it became brisker. The supply of spring chickens was more plentiful, and prices, generally speaking, were easier. Large chickens were

scarce, and making good prices. There were a few goslings on the market which realised from 6s. to 7s. 6d. each. Frozen poultry began to sell slowly, especially the second-grade qualities. There was inclined to be a surfeit of cheap Russian fowls. There was no change in Continental eggs excepting Russian, which were up 3d. per 120.

Week Ending June 12.

Trade somewhat quiet, hardly up to the average. English chickens were coming in more plentifully and were selling well. A fair percentage, however, were still on the small side. Aylesbury ducklings were inclined to be cheaper on the average, and meeting good demand. Quails were cheaper, and foreign rabbits were selling slowly at poor prices. The demand for frozen poultry was falling off. There was no change in value of better-class foreign eggs. Russian and Austro-Hungarian

firm, while English eggs a little more plentiful, but firm.

Week Ending June 19.

Trade not as brisk as expected. English chickens plentiful and meeting good demand; size improving; values rather lower. Aylesbury ducklings selling well and increasing in size. Frozen poultry selling slowly. Foreign game and ducks nearly over for this season. Foreign eggs realising about the same values as last week. Demand for English eggs brisk.

Foreign Imports of Eggs.

The imports for May under this heading showed a further falling-off in quantities as compared with the corresponding period of 1908, amounting to 78,588 great hundreds, bringing the total shortage for the year up to 1,252,935 great hundreds.

All countries, with the exception of Russia, showed a considerable advance in the average value of their produce. Danish eggs advanced by 11¾d. per great hundred, German 1s. 5¼d., French 9½d., Italian 5½d., Austro-Hungarian 1s. 1d. per great hundred, whilst Russian eggs receded by 1¼d.

The total quantity received for the five months was 5,376,121, as compared with 6,629,056 received during the same period of 1908.

Weight of Poultry and Eggs Received on the Smithfield Markets since January 1, 1909.

By the courtesy of the Superintendent of the Central Markets, Smithfield, we are able to give the weight in tons of the poultry and eggs received on these markets for the five months ended May 31 last:

1909.	POULTRY. Tons.	EGGS. Tons.
January	1,327	147
February.....	1,113	98
March	1,103	143
April.....	771	152
May	723	172
Totals	<u>5,037</u>	<u>712</u>

Eighty-eight Tons of Poultry Condemned.

During 1908 no less a quantity than 88 tons 2cwt. 0qr. 23lb. of poultry were seized by the Public Health authorities' officers as being unfit for food.

As stated in the notice sent out by the Corporation of London, a large proportion, valued at several thousand pounds per annum, was lost through the carelessness or ignorance of consignors as to the best methods of preparing and marketing such goods.

The seizures of poultry during 1908 represent about 7 per cent. of the total weight of the seizures made during the year under the heading of "Unsound Meat." In view of the heavy loss sustained by poultry-producers under this heading we feel we ought to reproduce for their advantage the notice issued by the Corporation.

CORPORATION OF LONDON. PUBLIC HEALTH DEPARTMENT.

NOTICE.

UNSOOUND POULTRY AND GAME, &C.

The Corporation of London has recently had under consideration the very large amount of Poultry and Game condemned in its Markets, the value of which amounts on an average to several thousand pounds per annum.

Inquiry shows that a large proportion of this waste is due to carelessness or ignorance of consignors as to the best methods of preparing and packing such goods.

Poultry and Game require for their preservation in good condition the greatest possible care and attention to details at every stage of killing, storing, and packing.

The Corporation has therefore requested its Medical Officer of Health to prepare the accompanying circular letter on the subject.

Copies may be obtained for distribution on application.

JAMES BELL, Town Clerk.

Public Health Department, Guildhall, E.C.

Hints as to the Proper Methods of Preparing and Packing Poultry and Game for Market:

I.—KILLING.

(a) Birds intended for slaughter must for a certain time be without food. Twenty-four hours is the shortest time that should be allowed for "fasting," and this should be increased in hot weather.

(b) The greatest care must be taken to prevent damage to the skin and tissues of the bird; bruised flesh rapidly decomposes. The simplest plan of killing is by dislocating the neck. The birds should at once be placed on shaping boards, head downwards. Plucking should be commenced before the flesh is cold. Game should be hung up or laid out separately until quite cold.

II.—PACKING.

Poultry and Game must be allowed to become *quite cold before packing*. To this end each bird should be laid out separately in a cool place, if possible in a direct current of air. More loss is due to inattention to this important detail than to any other cause.

In sending Poultry to the London Markets there is a prevalent practice of hurrying off imperfectly cooled consignments to be in time for Saturday's Market.

The cooling will be carried out while "shaping." Poultry and Game should always be packed in such a way as to receive as much fresh air as possible. The packages must be freely ventilated.

Hampers and baskets may be made sufficiently open to allow of ample circulation of air.

If wooden cases are used, they should either be crates made of battens, with wide spaces, which are useful and inexpensive, or, if boxes, openings should be made in the tops, bottoms, and sides.

The material used for lining the cases and filling in between the birds should be light and porous, and the packing, while loose enough to allow of ventilation, should be sufficiently firm to prevent bruising of the flesh. Thoroughly dry wheat (not oat) straw is the best material for packing.

It is certain that, if the above points are carefully attended to, Poultry and Game will arrive at Market in far better condition than at present, and much preventible destruction of good food will be avoided.

The above hints have been drawn up after consultation with some of the leading salesmen in the Market, whose valuable co-operation is hereby acknowledged.

WILLIAM COLLINGRIDGE, M.D.

Medical Officer of Health, City of London.

TABLE OF PRICES REALISED FOR HOME, COLONIAL, AND FOREIGN POULTRY, GAME, AND EGGS FOR THE FOUR WEEKS ENDED JUNE 19, 1909.

ENGLISH POULTRY—LONDON MARKETS.					FOREIGN POULTRY—LONDON MARKETS.					
DESCRIPTION.	1st Week.	2nd Week.	3rd Week.	4th Week.	COUNTRIES OF ORIGIN.	Chickens. Each.	Ducks. Each.	Ducklings. Each.	Geese. Per lb.	Turkeys. Per lb.
	Each.	Each.	Each.	Each.						
Surrey Chickens	3/6 to 5/6	3/0 to 5/6	3/0 to 5/6	3/0 to 5/6	Russia	1/3 to 2/9	—	—	—	—
Sussex "	3/6 " 5/6	3/0 " 5/6	3/0 " 5/6	3/0 " 5/6	Belgium	—	—	—	—	—
Yorkshire "	2/3 " 4/6	2/3 " 4/6	2/3 " 4/6	2/3 " 4/6	France	—	—	—	—	—
Boston "	2/3 " 4/6	2/3 " 4/6	2/3 " 4/6	2/3 " 4/6	United States of America	2/6 to 3/6	—	—	—	—
Essex "	2/3 " 4/6	2/3 " 4/6	2/3 " 4/6	2/3 " 4/6	Austria	—	—	—	—	—
Poussins	1/6 " 1/9	1/4 " 1/8	1/4 " 1/8	1/4 " 1/8	Canada	—	—	—	—	—
Irish Chickens	2/3 " 3/9	2/0 " 3/6	2/3 " 3/3	2/3 " 3/3	Australia	—	—	—	—	—
Live Hens.....	2/0 " 2/9	2/0 " 2/9	2/0 " 2/8	2/0 " 2/6						
Avlesbury Ducklings.	3/0 " 4/0	3/0 " 4/0	2/9 " 4/0	2/9 " 4/0						
Ducks	2/9 " 3/6	2/9 " 3/0	2/6 " 3/0	2/3 " 3/0						
Geese.....	5/0 " 7/6	5/0 " 7/0	5/6 " 7/6	5/6 " 7/6						
Goslings, English ...	5/0 " 6/6	5/6 " 7/6	5/6 " 7/6	5/6 " 7/6						
Guinea Fowls, Frozen	2/0 " 4/0	3/0 " 3/3	2/9 " 3/3	2/9 " 3/3						
Spring Chickens	2/0 " 4/0	2/0 " 4/0	2/0 " 4/0	2/0 " 4/0						

ENGLISH GAME—LONDON MARKETS.					IMPORTS OF POULTRY AND GAME. MONTH ENDED MAY 31, '09.				
DESCRIPTION.	Each.	Each.	Each.	Each.	COUNTRIES OF ORIGIN.	Price Each During Month.	DECLARED VALUES.		
	— to —	— to —	— to —	— to —			Game. £1,075	Poultry. £2,188	
Grouse	—	—	—	—	Russia	1/0 " 1/2	—	10	
Partridges.....	—	—	—	—	Austria-Hungary	0/4 " 1/6	—	4,365	
Pheasants.....	—	—	—	—	France	0/10, 1/6	—	30,230	
Black Game	—	—	—	—	United States of America	—	6,186	4,212	
Hares	—	—	—	—	Other Countries	0/5 " 0/8	£7,263	£41,005	
Rabbits, Tame	1/3 " 2/6	1/3 " 2/6	1/3 " 2/6	1/3 " 2/6	Totals	—	—	—	
" Wild	0/7 " 0/9	0/7 " 0/9	0/7 " 0/9	0/7 " 0/9					
Pigeons, Tame	—	—	—	—					
" Wild	2/3 " 2/9	2/3 " 2/9	2/3 " 2/9	2/3 " 2/6					
Wild Duck	—	—	—	—					
Woodcock	—	—	—	—					
Snipe.....	—	—	—	—					
Plover	—	—	—	—					

ENGLISH EGGS.					IMPORTS OF EGGS. MONTH ENDED MAY 31, '09.				
MARKETS.	Per 120.	Per 120.	Per 120.	Per 120.	COUNTRIES OF ORIGIN.	Quantities in Gt. Hund.	Declared Values.		
	9/- to 10/-	9/- to 10/-	9/6 to 10/6	9/6 to 10/6					
LONDON	Eggs per 1/-	Eggs per 1/-	Eggs per 1/-	Eggs per 1/-	Russia	611,184	£197,643		
	9/- to 10/-	9/- to 10/-	9/6 to 10/6	9/6 to 10/6	Denmark	199,592	81,027		
Provinces.	Eggs per 1/-	Eggs per 1/-	Eggs per 1/-	Eggs per 1/-	Germany	81,256	27,482		
MANCHESTER	12 to 14	11 to 14	11 to 14	11 to 13	Italy	43,653	17,956		
BRISTOL	10½ to 11	10½ to 11	10½ to 11	10½ to 11	France	145,651	64,687		
	per doz.	per doz.	per doz.	per doz.	Canada	—	—		
					Austria-Hungary	122,410	43,616		
					Other Countries	135,053	49,918		
					Totals.....	1,338,799	£482,329		

ANSWERS TO CORRESPONDENTS.

The Editor will be glad to hear from readers on any Poultry Topics, and all Queries addressed to the paper will be answered if possible in the issue following their receipt. The desire is to help those who are in any difficulty regarding the management of their poultry, and accordingly no charge for answering such Queries is made. Unless stated otherwise, Queries are answered by

F. W. PARTON,

Lecturer in Aviculture, The University, Leeds.

Starting Poultry-Keeping.

"I shall be much obliged if you will give me some ideas as to how to start keeping poultry. We have about thirty-six hens, but up till now the gardener has looked after them. I now think of either taking them all in hand myself or starting with a very few until I understand more about them. I should like to know what is the best food for them (they partly feed on scraps from the kitchen) and how to know when they want to sit. Will any fresh-laid eggs do for sitting, or is it necessary to have special ones? Would it be a good plan to start with a new brood of chickens or with a few of the old hens? If the old ones are best, will you kindly tell me what age they should be; also how many cocks there should be for from eight to a dozen hens and how much ground would be necessary for this number? If I am successful and take all the hens in hand, I want to supply the house with eggs and to sell the rest to shops. About what price ought I to get per dozen? Can you tell me if it is too late for a hen to sit at the beginning of July? At what age is it best to kill off the old birds? If the answers to these questions would take up too much room in the ILLUSTRATED POULTRY RECORD, perhaps you could tell me of a book on poultry that would be helpful to me."—A. A. S. (Bingley.)

1. It would be as well to reduce the number of your fowls and undertake the management yourself. Start with one or two pens, with six or eight hens and a male bird in each. As you gain experience you can increase your stock. 2. The food should vary with the seasons of the year. Soft food for the morning feed in summer may consist of barley meal and middlings; whole wheat or oats for the night feed. For breakfast in winter, Indian meal, barley meal, bran, peameal, and potatoes or turnips (cooked); at night wheat or barley. Give plenty of green food, and continue using table scraps. 3. When hens desire to sit, they persistently remain on the nest, their feathers are ruffled, and they make a peculiar clucking noise. 4. The eggs from your own hens—provided, of course, that a male bird is with them—will do for setting. 5. Better start with two-year-old hens mated with a year-old cockerel; one male to eight or ten hens. 6. The price of eggs fluctuates considerably according to the time of year and district; but in the West Riding of Yorkshire eggs always command a high price. 7. For hatching chickens intended for future layers July is very much too late; the best results are had from March- and April-hatched chickens. 8. Kill the old hens when they are about twenty-seven months old—that is, just before their second moult. 9. A suitable book for your purpose is "Poultry-Keeping as an Industry for Farmers and Cottagers," by Edward Brown, F.L.S., price 6s. 6d. post free from this office.

Best Breed of Turkeys.

"I have been offered some young turkeys to fatten for Christmas, but I don't know if they are the right breed. They are Black Norfolks. Is this the best breed to keep? If not, please tell me what is.—M. M. (Keswick.)

We cannot say that the Black Norfolk turkey is *the* best breed to keep. At the same time, for fattening for Christmas consumption they will answer your purpose most admirably.

The Duckling Trade.

"I shall be grateful if you will kindly tell me when is the best time of year to market young ducklings. Also which is the best breed to keep. At present I keep Rouens, but they seem so slow in developing."—R. M. T. (Bexhill.)

Ducklings may be marketed any time from January to the end of May; but they realise the highest prices in April and May. Slow growth is a characteristic of the Rouen; it is therefore quite unsuitable for supplying the early spring trade. The best breed in this connection is the Aylesbury.

A Point in Housing.

"Why is the old form of ladder perch so condemned, for I always use this kind and get very good results indeed? My fowls seem quite healthy and lay well."—E. R. (Berkhampstead.)

The principal objections are (1) that most of the fowls crush on to the top perch, leaving the others unoccupied. (2) The top rung is frequently directly in the current of air overhead, consequently there is grave danger to the inmates from the draught. (3) Jumping down from a high perch—there being no space to fly down—frequently causes an internal rupture.

Infertile Eggs.

"Please tell me why my eggs are infertile? I have had quite half my eggs this season that were quite clear, and I have now not more than fifty chickens, whereas last year at this time I had about 200. My fowls have a free range, and I never keep more than about twenty-five hens to any cock. I feed on toppings and maize meal for breakfast, and on wheat and maize for evening meal. Any help you can give me will be gratefully received."—T. S. L. (Barnsley.)

Undoubtedly the reason for your high percentage of infertile eggs is owing to your running too many hens with each male. Breeds vary considerably in their vitality, and as you do not state what breeds you keep, it is difficult to say just how many you may safely run together, but as you state that your fowls have a free

range, and under these conditions a male can serve more hens than when they are kept in confined runs, we would advise you to have twelve instead of twenty-five hens. Your feeding is also at fault; your birds will be too fat internally, which is a condition neither conducive to fertility nor yet to strong germs and hardy chickens. Instead of middlings and maize meal for breakfast, give one part middlings and two parts barley meal; and substitute oats for maize in the evening feed.

Short Replies.

- W. B. (Watford): No.
 K. B. (Manchester): Aylesbury or Pekin.
 E. L. (Berwick-on-Tweed): August, 1905.
 F. P. W. (Leeds): Never more than a dozen.
 M. R. S. E. (Longforth): A month to five weeks.
 L. R. T. (Eastbourne): 1. Yes. 2. Yes. 3. Yes.
 S. T. (Enfield): See reply to "R. M. T. (Boxhill)" in this issue.
 E. J. R. (Harrow): We have forwarded your letter as requested.
 J. S. L. (Upper Norwood): Probably a cross would suit your purpose better.
 E. S. T. (Hanley): We are sorry we cannot give the required information.
 E. M. G. (Carnforth): We thank you for your suggestion, and will certainly act upon it.
 T. L. (Hexham): The address you want will be found among our advertising pages.

Telegrams—FOODS, Westhoughton. Tel. 30 Westhoughton.
BOLTON MODEL POULTRY FARM,
LOSTOCK, LANCASHIRE.
 Stations—Westhoughton or Lostock Junction.

"MAKEBONE" CHICKEN FOOD.



PREPARED AND USED AT

The Bolton Model Poultry Farm,
 LOSTOCK, LANCASHIRE.

Exporters, Exhibitors and Breeders of High-Class Buff, Black and White Orpingtons, Blue Andalusians, White, Black, and Partridge Wyandottes, Indian Game, Buff Rocks, Mammoth Bronze Turkeys, and Aylesbury Ducks.

Proprietors of "Eg-Kum" Poultry Foods, "Mepos" Game and Chicken Foods, and "B.B." Dog Foods.

TRADE NOTICES.

Mr. Randolph Meech's Poultry-Houses.

It is not many months since we published an article descriptive of Mr. Meech's appliance factory at Poole, Dorset—known as the West of England Appliance Works—in the course of which attention was called to the creosoting plant which is one of the features of this very complete establishment. Mr. Meech now sends us a lucid and extremely interesting leaflet detailing the process by which wood is treated with Penetras under hydraulic pressure, the kind of wood that is best suited thereto, and the many advantages of having one's poultry-houses protected from deterioration by a good preservative that will last. A comparative list of prices of houses in white wood and in red wood "treated" by the process shows the cost of the latter to be only fractionally greater than that of the former. The problem of preservation is an important one, and we can recommend those who have not yet found a satisfactory solution to write to Mr. Meech without delay.

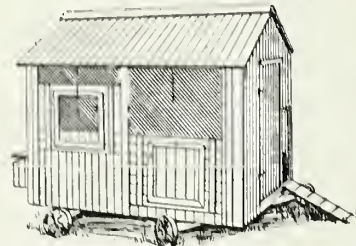
A Chance to Obtain Layers.

Hundreds of fancy birds have been shipped from England to New Zealand, and the *New Zealand Poultry Journal* Institute now affords an opportunity for English breeders to import a pen of the famous "Rector" White Leghorns as egg-producers. A special, exceedingly moderate, price is quoted for these birds, each of which is guaranteed 200-egg strain. The birds will be crated and placed f.o.b. for the price stated, and will represent the best selection from the Institute flock. To anyone purchasing a pen of these birds an opportunity is given for establishing a flock of layers second to none in the world. An immediate demand for eggs and stock from these birds would result from the purchase, so that we can strongly recommend the importation.

PAYNE'S POULTRY HOUSES

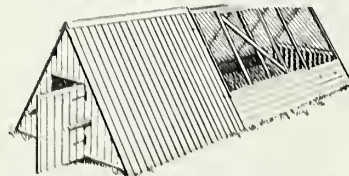
are absolutely the finest procurable, built of fine red wood only.

The "Elstree" House.



No. 1, 6ft. long, 4ft. wide, £2 16s. No. 2, 7ft. 6in. long, 5ft. wide, £3 15s. No. 3, 9ft. long, 6ft. wide, £4 11s. Fitted with movable axle and wheels. Carriage paid to your station.

Apex House and Run.



16ft. long, 6ft. wide, 5ft. 3in. high, £2 6s. 6d. Carriage paid to your station. Illustrated catalogue free of all my Brooders, Houses, &c. Only address, **BERTRAM PAYNE,** Appliance Works (Dept. G), ST. ALBANS.

Mr. W. Tamlin's Exports.

The following is a list of Mr. Tamlin's exports for the month of May, 1909: Ten 100 incubators, ten 60 incubators, five 60 foster-mothers, to Mr. Fletcher Bradley, Canada, per ss. Lake Michigan; six 100 incubators, six 30 incubators, to Messrs. Oakes and Co., India, per ss. Mombasa; ten 60 incubators, ten 100 incubators, ten 100 foster-mothers, to Messrs. A. Newcomb and Co., New Zealand, per ss. Turakina; ten 100 incubators, ten 60 foster-mothers, to M. André Masson, France, per Bennett Steamship Co.; one 100 incubator, to Mrs. Ashworth, Algoa Bay, South Africa, per ss. Saxon; one 100 incubator, to Mr. J. M. Bower, Padang, Java, per ss. Willis; one 60 incubator, to Mr. V. de Beauclerk, Canary Islands; one 100 incubator, one 100 foster-mother, to Mr. J. Black, Holland; one 60 incubator, to Mr. T. P. Mascarenbas, Belgium; one 100 incubator, to Mr. A. P. Northcroft, Gibraltar.

Midland Excursions.

Cheap excursions are announced by the Midland Company to be run from London (St. Pancras) to Belfast and the North of Ireland every Thursday during the summer months, and to Dublin, the South and West of Ireland every Friday; also to Glasgow, Edinburgh, &c., every Friday. Excursion tickets for various periods will also be issued to the Peak of Derbyshire Blackpool, Liverpool, and the Lake District every Saturday. Full particulars are obtainable at any Midland station in the London district, or any office of Thos. Cook and Son.

Southern Ireland.

The best route to the South of Ireland is by the Great Western Railway from Paddington, via Fishguard and Rosslare, as the journey is short and the crossing in daylight. The train leaves Paddington at 8.45 a.m., a convenient hour, as there is time to have breakfast before starting or in the restaurant-car on the journey. Luncheon is on board the turbine steamer, and the voyage is only about two and a half hours.

An Attractive Guide to the Continent.

The Great Eastern Railway has just issued its Guide to the Continent, a handy little book, which for the sum of 6d. gives a wonderful amount of useful information, not only as to routes, but as to the cost abroad and the sights to see—Holland and its art treasures, North Germany, the Harz Mountains, to which a useful little sketch map lends interest, the Thuringian Mountains, South Germany, the Rhine, the Moselle, with clear little maps of each river, the Black Forest, the Tyrol, Belgium, so accessible and full of attractions, the Ardennes; in fact, all the chief holiday grounds of Europe are presented for the traveller to choose. A section of "Travel Talk" in English, French, and German should be useful to the unaccustomed traveller.



Chamberlain's
"RAPID GROWTH"
Chick Foods
STAND ALONE!

March 29, 1909.
Mr. J. Smith, Farmer, Swanage, writes: "I am quite satisfied with Rapid Growth Chick Food. I have reared a good many chicken before, but I have never had anything to thrive chicken on so as Rapid Growth, and shall recommend it to my friends."

Samples and price lists on receipt of card, from the Sole Makers:—

CHAMBERLAIN, POLE & CO. Ld.,
Poultry Food Experts, BRISTOL.



ONE & ALL SEEDS.

The Brand Guarantees One & All Quality.
ONE & ALL SEEDS are reliable, pure and guaranteed. They are supplied in sealed packets.
One & All Half-Crown Collection of 10 Asters.
One & All Five Shilling Collection of 10 Stocks.
One & All Shilling Collection of 12 Annuals.
One & All Shilling Collection of 12 Perennials and Biennials.
One & All Shilling Collection of 12 Salading Seeds.
One & All Shilling Collection of 12 Vegetable Seeds.
One & All Shilling Collection of 12 Sweet Peas.



ONE & ALL FERTILISERS are complete manures.

ONE & ALL FERTILISER No. 24 for Vegetables and General Garden Purposes: Half-Rod Packets, 6d.; Bags: 7lbs, 2/3; 14lbs, 3/6; 28lbs, 5/9; 56lbs, 10/6; 112lbs, 20/. Carriage paid.

ONE & ALL is the registered Trade Mark of the **AGRICULTURAL AND HORTICULTURAL ASSOCIATION, LIMITED**, Mutual Society founded in 1867. To ensure purity of supply. Name and address of nearest local agent, catalogues, and other details post free on application to

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ONE & ALL FERTILISERS.

THE ILLUSTRATED POULTRY RECORD

£50 Prize Competition £50



OPEN TO THE WORLD.

PRIZES OFFERED.

In order to encourage the Poultry Industry, and at the same time to make widely known THE ILLUSTRATED POULTRY RECORD by extending its readership, the Proprietors offer one of the following Prizes :

- 1.—A Six Months' Scholarship at the College Poultry Farm, Theale, including all Tuition Fees and Board and Residence, or training at any recognised Institute in any part of the World. Value £50.
- 2.—A Tour to the leading Poultry Centres of Europe or America. Value £50. Or
- 3.—Poultry Stock or Appliances to the Value of £50.

HOW TO WIN THE PRIZE.

The Person who, during the twelve months ending September 30, 1909, secures the largest number of Annual Subscribers to THE ILLUSTRATED POULTRY RECORD will, subject to the regulations, be awarded one of the above Prizes, of the value of £50, as he or she may select.

N.B.—Each Competitor who secures 10 or more Annual Subscribers will receive a copy of "The Illustrated Poultry Record" for one year Free of Charge.

REGULATIONS.

1. The name of the Competitor is to be sent to the office for Registration.

2. The Competitor must forward the names of Subscribers obtained to the office as received. The Subscription will commence with the next issue.

3. With each Subscriber's name, 6s. must be enclosed when the paper is to be delivered through a Newsagent, or 8s. when the paper is to be forwarded by post. All Colonial and Foreign orders must be accompanied by 8s. (except Canada, in which case 7s. is the amount), as arrangements cannot be made for delivery abroad by Newsagents.

4. If the Subscriber prefers to pay his Newsagent the Annual Subscription, the Newsagent's receipt for payment of a yearly order will be accepted.

5. If two or more persons secure the same number of Annual Subscribers—which is very unlikely—the Editor reserves the right of extending the period of Competition for one month.

6. If the successful Competitor wishes to do so, he or she may nominate another person for the Prize, subject to the approval of the Editor.

7. Before the award is announced, the Competitors' Lists will be checked by Messrs. SMITH & LONGCROFT, Chartered Accountants, 41, Bishopsgate-street Within, London, E.C.

8. Should the winner live outside the United Kingdom, and elect to take No. 1, he or she would pay travelling expenses to England, or take a shorter course, subject to the approval of the Editor.

9. The latest date for receiving Subscriptions will be as follows :

United Kingdom..... Sept. 30

The Continent, Canada, and U.S.A.... Oct. 10

The Colonies, &c..... Oct. 20

and the result will be announced in the November issue.

10. The Editor, Sectional Editors, and members of the Office Staff and Newsagents are prohibited from competing.

11. The Editor's decision must in all cases be accepted as final, and all Competitors must enter on this understanding.